

**REVISED  
AGENDA**  
**Academic Standards & Assessments Subcommittee Meeting**  
Monday, January 23, 2023  
10:00 a.m.  
Room 410, Blatt Building

I. Welcome and Introductions.....Dr. Patti Tate

II. Approval of Minutes for November 14, 2022 .....Dr. Patti Tate

III. Presentations & Information Items:

4K and 5K Assessment Analysis .....Dr. Anna Hall,  
Associate Professor, Early Childhood Education, College of Education &  
Dr. Sandra Linder,  
Professor, Early Childhood Mathematics Education  
Clemson University

Update on Stackable Credentials .....Dr. Quincie Moore,  
Director, Office of Career & Technical Education, SCDE  
Ivy Coburn, Division Director, Education & Workforce &  
Dale Winkler, Vice President, School Improvement  
SREB

Analysis of SC School Climate Survey Free Responses .....Amber Adgerson

IV. EOC Chaiman Report: Establishment of the Ad Hoc EOC  
Executive Director Search Subcommittee & the EOC Chair  
Search Subcommittee .....Mr. Neil Robinson

V. Adjournment

Academic Standards and Assessments

Dr. Patti Tate, Chair  
Barbara Hairfield  
Sen. Ross Turner  
Sidney Locke  
Sen. Dwight Loftis  
Neil Robinson

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Patti J. Tate  
C. Ross Turner, III  
Ellen Weaver

Dana Yow  
INTERIM  
EXECUTIVE DIRECTOR

# **SOUTH CAROLINA EDUCATION OVERSIGHT COMMITTEE**

## **Joint Academic Standards & Assessments and**

### **Public Awareness Subcommittee Meeting**

Minutes of the Meeting

November 14, 2022

**Members Present (in-person or remote):** Dr. Patti Tate; Sen. Dwight Loftis; Barbara Hairfield; Neil Robinson; Sen. Ross Turner; Sidney Locke; and Dr. Scott Turner (Remote)

**EOC Staff Present:** Matthew Ferguson; Dana Yow; Gabrielle Fulton; Dr. Jenny May; Hope Johnson-Jones; Dr. Matthew Lavery

Dr. Tate welcomed subcommittee members and as the first order of business, Mr. Robinson moved to approve the minutes from the last ASA subcommittee meeting, with Sen. Turner seconding. Next, Ms. Yow and Ms. Fulton provided the subcommittee with a walkthrough of the EOC's newly updated site, [ExpectMoreSC.com](https://ExpectMoreSC.com). Ms. Yow began the presentation with a summary of all existing EOC websites and their purpose. She highlighted the need to combine the rich resources of multiple sites. Gabrielle Fulton walked the subcommittee through the various features of the new website, grouped into three central categories: Get Information, Get Educated, and Get Involved. The floor was opened for questions and comments. Ms. Hairfield wondered about connecting supporting documents and resources from the State Department of Education to resources on ExpectMoreSC. She emphasized the importance of making that happen and highlighted recent experiences with the standards. Senator Loftis had questions about the processes that EOC uses to respond to communication sent via the webpage. He emphasized the importance of effective responses. Senator Loftis referenced the October presentation from the Charleston group that is actively engaged with internships and noted that those types of programs are happening in various parts of the state and wondered if there was anything EOC could do to promote those opportunities. Ms. Fulton and Ms. Yow discussed the overall intent and scope of the project, asserting that attempts would be made to include pertinent information that fit within that scope.

Next, Mr. Ferguson provided subcommittee members with an update on the 21-22 Report Card release. This Report Card is the first time that climate survey and school perceptions are included in the Report Card. Dr. Tate thanked staff for their hard work and noted her appreciation in including teacher voice for the first time. Mr. Ferguson stated that including this information is particularly helpful as climate survey responses provide information on changes that can be made quickly and effectively at the school and local level.

With no questions, Mr. Ferguson and Dr. Lavery provided the subcommittee with staff recommendations for the scoring of new accountability metrics, including Student Progress. Sen. Loftis asked about the weight of these indicators. Mr. Ferguson noted that Student Progress would be worth 35 points, the same as Academic Achievement. Sen. Loftis asked to clarify if this was under Median Annual Target. Mr. Ferguson noted that no, Added-Value Targets would be worth more points based on the size of expected gains. Sen. Loftis asked how we know that End of Course tests correlate with overall knowledge. Mr. Ferguson stated that Added-Value Targets provide a blueprint to show if students are growing enough over the year to get to proficiency. With no further questions, Dr. Tate asked for a motion. Sen. Loftis stated that elementary students often perform better than high school students and made a motion to approve the staff recommendations. Mr. Robinson seconded and with none opposed, the motion was approved.

Mr. Ferguson noted that each of these changes is an attempt to make lagging indicators a more real-time indication of student progress. Dr. Tate noted that this is what makes these some of her favorite changes to the Report Card and that she cannot wait to see the results over time. Mr. Ferguson thanked Dr. Tate and noted that graduation rate rose during the pandemic, so we can only hope that graduates have the skills needed to match. Ms. Hairfield moved to approve the next of the accountability changes and Sen. Loftis seconded. With none opposed, the motion was approved.

Mr. Ferguson next introduced staff recommendations for new ELA standards. These new standards attempt to balance science of reading and reading comprehension. Additionally, they work towards a vertical learning progression for clear grade-level expectations. Staff recommended the approval of the new standards and recommended

that SCDE develop comprehensive ELA standards supporting documentation. Mr. Ferguson then asked if subcommittee members have any questions. Sen. Loftis noted that he did not have a question, but that these changes were long overdue and made a motion to approve. Mr. Robinson commented that regionally, the state is represented but that only one person participated in the standards development from the lower part of the state.

Mr. Ferguson called upon Dr. Christina Melton, who noted that the map was an indicator of who accepted the invitation to participate, not who was invited. Feedback was also solicited through meetings and roundtables outside of the writing committee. Mr. Robinson thanked Dr. Melton. Dr. Melton noted that a similar process is employed for soliciting feedback on the math standards, so any suggestions for improving participation are welcome. Ms. Hairfield noted that Charleston had a voice in the past through the standards review committee and that we have seen much English standards revision and that she has hope for collaboration between assessments and standards. Additionally, she hopes that the support documents will be integrated as well. Ms. Hairfield seconded the approval. Dr. Tate stated her appreciation of the recent changes and thanked staff. Ms. Hairfield noted that these are the best we have seen in a while. Mr. Robinson stated that though he is excited about the standards, he is disappointed in the lack of participation. All subcommittee members approved and with none opposed, the motion passed, and the meeting adjourned at 11:12 am.

# *4K and 5K Assessment Analysis*

***Presented to:***

South Carolina Education Oversight Committee

***Presented by:***

Anna H. Hall, Ph.D.

Sandra M. Linder, Ph.D.

Heather R. Brooker, Ph.D.

Julie Lorah, Ph.D.

Grace Bachewiig, M.Ed.

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## *About Team*

**Anna H. Hall, Ph.D.;** Associate Professor at Clemson University. Dr. Hall's research focuses on early childhood literacy development and instruction. She has provided content analysis for two state reports on the topic of early childhood assessment and has served as a panel chair for the Head Start Graduate Student Research grant review sponsored by the Office of Planning, Research and Evaluation (OPRE) in the Administration for Children and Families (ACF), U.S. Department of Health and Human Services.

**Sandra M. Linder, PhD.;** Professor of Early Childhood Mathematics Education and Assistant Chair of the Department of Teaching and Learning at Clemson University. Dr. Linder's research focuses on early mathematical play and the role of parents/caregivers in support of young children's mathematical development. Dr. Linder has served as an external evaluator for the SC Education Oversight Committee on the three-year implementation of 4K Community Block Grants and is currently part of the statewide needs assessment team for the SC Department of Social Services and SC First Steps Preschool Development Grant.

**Heather R. Brooker, Ph.D.;** Lecturer of Classroom Assessment and Educational Psychology. Dr. Brooker's research, teaching, and service interests focus on teacher preparation, confidence, and support in implementing classroom assessment best practices in their K-12 classrooms.

**Julie Lorah, Ph.D.;** Assistant professor in the Department of Education and Human Development. Dr. Lorah's research focuses on the study and application of advanced statistical models, particularly the multilevel model and moderation model, and the methods for interpreting these models.

Additionally, we would like to acknowledge the work of Clemson University doctoral student, **Grace Bache-Wiig**, from the College of Education who assisted in the data and analysis portions of this report.



## *Executive Summary*

Pursuant to Proviso 1.55 in the 2022-23 Appropriations Act, the Education Oversight Committee (EOC) shall “conduct an annual evaluation of the South Carolina Child Development Education Pilot Program and issue findings in a report to the General Assembly by March 1st of each year.” This report summarizes the scope and findings for Parts 1-2 of the 4K and 5K Assessment Analysis.

### *Scope*

An initial analysis of state approved assessments for 4K was conducted in the spring of 2022. Findings and recommendations focused on the constructs measured by the three state-approved assessments of students in public-funded 4K programs (IGDIs-EL, PALS-PreK, and the Teaching Strategies Gold). The report also described the degree constructs aligned across the three assessments and how the assessments aligned with the 4K Early Learning Standards (ELS).

The expansion of this work is provided in this report and includes information on the alignment of the Kindergarten Readiness Assessment (KRA) with ELS and Kindergarten Standards and a description of the KRA’s ability to accurately and reliably measure skills needed to access activities in kindergarten. Specifically, the current report lists findings from the following scope of work:

1. Examine the KRA test and technical manual to report:
  - A. Is the KRA aligned with the SC Early Learning Standards, which outline expectations of children at the end of the age periods of 36 to 48 months and 48 to 60+ months?
  - B. What construct(s) are measured by the KRA? How do the constructs relate to the test scores (e.g., overall, by domain/subdomain, etc.)?
  - C. Is the KRA aligned with the SC Kindergarten standards?
  - D. What information does the KRA technical manual provide regarding evidence of the reliability, validity, and fairness/equity of score interpretations and the purpose/use of testing information?
  - E. Which assessment (IDGIs-EL, PALS-PreK, Teaching Strategies Gold, or the KRA) more completely assesses:
    - a. ELS
    - b. Profile of the Ready Kindergartener?
2. Examine the accuracy and reliability of the KRA in measuring Kindergarten Readiness as South Carolina has defined it using the profile of the Ready Kindergarten Student.

- a. What are the strengths/weaknesses of the psychometric properties of the KRA in measuring readiness?
- b. What are the strengths/weaknesses of reliability of the assessment for different groups of students (race, gender, SES)?

### ***Summary of Findings***

- Overall analysis of item alignment for all four assessments (KRA, Gold, PALS, and IGDIs) showed that the PALS-PreK and IGDIs were not closely aligned with ELS or Kindergarten Standards, while the KRA and GOLD had comparable moderate alignment across both sets of standards.
- When combining categories of fully aligned and somewhat aligned items on the PALS-PreK and IGDIs, standard indicators not aligned with items significantly surpassed aligned items standards.
- Because the PALS-PreK and IGDIs are literacy-focused assessments, it is not surprising that assessment items aligned most often with standard indicators related to Language and Literacy and had little to no alignment with items in other domains.
- The Fall 2022 scope of work expanded to examine all domains of the Gold domains (rather than focusing solely on the Language and Literacy domain currently required by the state of SC). When examining the entire assessment, the GOLD showed the closest alignment with indicators across the ELS and Profile of the Ready Kindergartner (Younger ELS 52%, Older ELS 90%, and Profile 87%)
- The KRA showed similar alignment with the ELS Younger standards and Ready Profile indicators and less alignment with the ELS Older standards (Younger ELS 54%, Older ELS 57%, and Profile 70%)
- When comparing alignment of the KRA to the ELS and Kindergarten standards, the assessment was more closely aligned with the ELS.
- The GOLD assessment is a fully observational tool (indicating a high level of subjectivity) while the KRA is composed of selected-response, performance-task, and observational items (indicating less subjectivity than the GOLD).
- Norm/pilot groups for the KRA were diverse in terms of race/ethnicity and gender.
- In terms of validity, evidence that the test measures what it claims to measure, the KRA provided convincing content validity and construct validity evidence, but did not include criterion-related validity evidence.
- The KRA did not provide convincing evidence that it is fair and unbiased toward students falling into subcategories of race/ethnicity, sex/gender, urban/suburban/rural, or geographic location. However, it did provide guidelines

on universally designed field supports to guide teachers when administering to students with disabilities and ELL learners.

- In terms of reliability, an indication of how much confidence one can put in the accuracy of a score, the KRA provided convincing evidence of internal consistency. Although the KRA described offering teacher training, it did not provide statistical evidence of inter-rater reliability.
- The following table outlines the positives and negatives observed for the GOLD and KRA assessments as they proved to be the closest aligned assessments with South Carolina ELS and Kindergarten expectations examined in this report.

	Kindergarten Readiness Assessment	Teaching Strategies Gold
Positives	<ul style="list-style-type: none"> <li>• Over half of ELS (younger and older) and Kindergarten Standards are currently met/somewhat met by KRA</li> <li>• Over half of indicators on the SC Profile are met/somewhat met by KRA</li> <li>• Ease of implementation (selected-response and performance items can be assessed prior to school start)</li> <li>• Combination of selected-response, performance-tasks, and observation items allow for increased objectivity while also providing deeper insight about each child</li> <li>• 3-point rubric increases ease of scoring for teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Over half of standards are met/somewhat met by Gold</li> <li>• Over half of indicators on the SC Profile are met/somewhat met by Gold</li> <li>• Inclusion of visual and performative arts present within scope of assessment</li> <li>• Ability of teachers to implement one or multiple domains (however number of standards met in this report is based on measuring all domains)</li> <li>• Substantive assessment; gives a full picture of the child</li> <li>• History of use across the country provides positive feedback</li> </ul>
Negatives	<ul style="list-style-type: none"> <li>• Observational items could be hard to complete at the beginning of the year</li> <li>• Very few items measure science and social studies standards</li> <li>• Interrater reliability could be</li> </ul>	<ul style="list-style-type: none"> <li>• Fully observational assessment- including 38 objectives- requires significant time across the year to complete and thorough training</li> <li>• Interrater reliability could</li> </ul>

	difficult to establish for observational items	be difficult to establish for all items
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### *Recommendations from the Review Team*

- The team recommends refocusing assessment efforts to focus on 4K rather than 5K as the KRA alignment is stronger with the ELS. The kindergarten standards are meant to provide a picture of student mastery at the end of Kindergarten. As the goal is to determine readiness for kindergarten, using the ELS and SC Profile to examine alignment provides a better framework.
- Out of the four assessments examined in this work, the team recommends focusing on the KRA and the GOLD (all domains) as options for state approved assessments for determining kindergarten readiness.
- However, ultimately the team recommends examining the potential of the KRA as a pre/post assessment at the beginning and end of 4K as the combination of performance indicators and observation items better captures student readiness with less subjectivity than a purely observational instrument (e.g., the Gold).
- Prior to implementing the KRA as a pre/post, the team recommends revising and condensing the ELS (now that they have been implemented over a number of years) to more closely align with the SC Profile of a Ready Kindergartner.
- Following the refinement of the ELS, the team recommends conducting a KRA revision to align with most if not all remaining ELS standards through additional observational and performance items.
- If the GOLD continues to be a state approved assessment, an analysis of which GOLD domains should be required is needed, as the current requirement of the Language and Literacy domain provides much less alignment with standards than the KRA with its multiple domains.
- It is recommended that the chosen assessment(s) moving forward incorporate training for teachers on procedures, consistency regarding procedures (eg. who are the assessors, when does the assessment occur), and training on using the data to plan formative instruction to support student growth and learning at all levels. Without training and/or administration by a trained administrator, the team has concerns regarding subjectivity, inter-rater reliability, and the potential to aggregate data to use the results for differentiated instruction and formative assessment practices.
- The team recommends differential item functioning research be done on the tests used by South Carolina to provide evidence that the populations at risk in the state (for example, focal groups such as minoritized races and ethnicities, children in ESOL families, children in rural schools, and low-income districts) are being assessed in an unbiased way, and that test results are being used fairly.

## ***KRA Alignment with South Carolina Early Learning Standards***

***1A: Is the KRA aligned with the SC Early Learning Standards, which outline expectations of children at the end of the age periods of 36 to 48 months and 48 to 60+ months?***

This section presents a comparative analysis of the items in the Kindergarten Readiness Assessment (KRA) and the South Carolina Early Learning Standards for Younger Preschoolers (36 to 48 months) and Older Preschoolers (48 to 60+ months).

### ***Degree of Overall Alignment***

The project team conducted an item analysis by comparing each assessment item on the KRA to each indicator across the SC Early Learning Standards for both Younger (198 indicators) and Older Preschoolers (233 indicators).

To determine alignment, the project team examined if assessment items met a standard indicator on the SC Early Learning Standards. For example, when examining the Solves Problems item in the KRA assessment, the project team looked across standard indicators for Younger and Older Preschoolers in each domain to see if the item aligned with any indicators in any domain. Once the project team completed this initial analysis, the team determined the extent to which items aligned with indicators. Assessment items were rated using the following categories: Item Fully Aligned to Indicator (Green), Item Somewhat Aligned to Indicator (Yellow), and Indicator Not Aligned to Indicator (Red)—see Tables Appendices for analysis of each indicator and Tables 1.1-1.2 for alignment summary of indicators.

The assessment item was identified as fully aligned to the indicator if the item addressed all aspects of the indicator. For example, the Engage with Peers in Pretend Play item in the KRA is fully aligned with the Approaches to Learning indicator: Engage in Make-Believe Play with Imaginary Objects item (APL-3o). However, the Engage with Peers in Pretend Play item is only somewhat aligned to the indicator: Add New Actions, Props, or Dress-Up Items to Pretend Play (APL-4i) as this item is too general to specifically indicate if the student is able to add new actions, props, or dress-up items to pretend play. Once the extent of item alignment was determined, the number of indicators across all domains was totaled for each category. Following this analysis, the project team totaled item and indicator alignment for all domains of the SC Early Learning Standards.

## Analysis Results

The project team examined alignment between the KRA to the SC Early Learning Standards for Younger and Older Preschoolers. The domains examined in the SC Early Learning Standards were as follows: (1) Approaches to Learning, (2) Emotional and Social Development, (3) Health and Physical Development, (4) Language Development and Communication, (5) Mathematical Thinking and Expression, and (6) Cognitive Development. Findings for the overall analysis of item alignment across all domains indicate that the KRA has moderate alignment to indicators for the Younger and Older Preschoolers.

When examining the Younger Preschoolers specifically, assessment items in the KRA fully aligned with 21% (or 40 out of 194) of the standard indicators. When combining categories of fully aligned and somewhat aligned, 57% (110 out of 194) aligned with standard indicators. Results indicated the KRA does not align with 43% of all Early Learning indicators for Younger Preschoolers.

Table 1.1: *Item Alignment for Younger Preschooler – All Domains*

	<i>Fully Aligned</i>	<i>Fully or Somewhat Aligned</i>	<i>No Alignment</i>
<b>KRA</b>	<b>40 (21%)</b>	<b>110 (57%)</b>	<b>84 (43%)</b>

Results for Older Preschoolers demonstrated less items fully aligned with the older standards (13%; 29 out of 231) and a similar number of items are fully or somewhat aligned (54%; 124 out of 231). Assessment items for the KRA do not align with 46% of all Early Learning indicators for Older Preschoolers.

Table 1.2: *Item Alignment for Older Preschooler - All Domains*

	<i>Fully Aligned</i>	<i>Fully or Somewhat Aligned</i>	<i>No Alignment</i>
<b>KRA</b>	<b>29 (13%)</b>	<b>124 (54%)</b>	<b>107 (46%)</b>

## Constructs and Relationship to Test Scores

**1B: What construct(s) are measured by the KRA? How do the constructs relate to test scores (e.g., overall, by domain/subdomain, etc.)?**

This section presents an analysis of the constructs and item types of the Kindergarten Readiness Assessment 2.0 (KRA 2.0). The purpose being to explore the validity and

reliability of this assessment measure in providing information about student needs in relation to mastery of developmental and learning expectations across the skills associated with school readiness in the Common Language Standards provided in Appendix B of the 2018 KRA 2.0 Development and Technical Report.

### ***Degree of Overall Alignment***

KRA 2.0 is an updated version of KRA 1.5 which was developed in response to funding from Race to the Top - Early Learning Challenge grant funding aimed at assessing students' preparedness for kindergarten based on essential domains of school readiness anchored in the Common Language Standards.

To explore alignment of identified constructs with student learning measures, the team reviewed the KRA 2.0 and details were compiled with the intention and goal of the assessment, organization within the assessment of construct domains, subdomains, and individual items/tasks. Upon completion of the review, the number of constructs were discussed as a team and determinations were made of rationality of construct measurement and inclusion based on developmental trajectory. Secondary analyses included initial exploration of the individual task items for socio-cultural responsiveness and support for differentiated instruction.

### ***Analysis Results***

The project team analyzed the KRA 2.0 assessment in relation to:

- a) the organizational hierarchy and complexity of each construct,
- b) construct items assessed, and
- d) instructional aims for further teacher support in the construct areas.

### ***Sum of Item Constructs***

The different construct subdomains assessed within the KRA 2.0 are organized with a 3-tiered hierarchy (Domain, Subdomain, Items). A summary of the organizational hierarchy and detailed names of the constructs is shown in Tables 1.3 - 1.6.

The KRA utilizes three different item types to assess school readiness across four domains: Language and Literacy, Mathematics, Physical Well-Being and Motor Development, and Social Foundations. The item-types include: selected-response items, performance task items (where students are asked to complete an activity or action in response to a prompt that is graded by a 3-point rubric), and observational-rubric items which are designed to describe and evaluate specific behaviors or skills that are developmentally appropriate and aligned with typical planned classroom instruction.



In total, the KRA 2.0 measures 17 items within the domain of Language and Literacy worth a total of 34 points, or 35% of the total points across all domains.

Under the Language and Literacy domain the team has identified six subdomains: Oral Language, Phonological Awareness, Alphabet Knowledge, Print and Word Awareness, Comprehension, and Writing Skills. The items within these subdomains focus on diagnosing students' language skills in listening and communicating with an understanding of the conventions of standard English grammar and usage, as well as an ability to use conversational context to determine meaning. Additionally, they are designed to measure emergent literacy skills associated with understanding of concepts about print, alphabet knowledge, phonological awareness, comprehension, and writing skills.

Table 1.3: *Detailed comparison of hierarchical structure and measured Language and Literacy foundational skill constructs across the KRA 2.0 assessment.*

Subdomain	Item	Number of Items Observed	Number of Items Scored
<b>KRA 2.0</b>			
<b>6</b>	<b>12</b>	<b>17</b>	<b>17</b>
Oral Language	Uses social conventions of standard English grammar when engaged in literacy activities	2	2 (*3 points)
	Engages in conversations through multiple exchanges with adults and peers	1	1
	Follows multi-step directions	1	1
	Uses an expanding expressive vocabulary	1	1
Alphabet Knowledge	Letter Sounds	2 (* one with 5 lowercase and one with 5 uppercase letters)	2 (*each worth a total of 3 points)
Print and Word Awareness	Distinguish words for letters	1	1
	Demonstrate how print is read	1	1
Phonological Awareness	Beginning Sound Awareness	2	2



	Identify Rhyming Words	2	2
Comprehension	Retell the appropriate sequence	1	1
	Identify key details	2	2
Writing Skills	Name Writing	1	1

\*The skills/behaviors listed in the subdomains above are not exhaustive of the skills/domains associated with the Common Language Standards. They represent the item types provided for each of those subdomains in the 2020 KRA Form A Test Booklet provided (KRA 2018 Development and Technical Report, p. 48-49).

The KRA 2.0 measures 14 items within the domain of Mathematics worth a total of 25 points, or 26% of the total points across all domains. The four subdomain foundational skill sets identified and measured under this domain are: counting and cardinality, operations and algebraic thinking, measurement and data, and geometry.

Table 1.4: *Detailed comparison of hierarchical structure and measured Mathematics foundational skill constructs across the KRA 2.0 assessment.*

Subdomain	Item	Number of Items Observed	Number of Items Scored
<b>KRA 2.0</b>			
<b>4</b>	<b>12</b>	<b>14</b>	<b>14</b>
Uses number concepts and operations (Counting and Cardinality)	Count to 20	1	3 points total
	Tell how many there are	1 (6 numbers to name)	1 (total of 3 points)
	Say these numbers	1	1
	Identify the set that has the same number	1	1
	Solve simple addition problems	1	1

	Determine amount needed to complete a set	1	1
Explores and describes spatial relationships and shapes (Geometry)	Name these shapes	1 (3 shapes to name)	1 (total of 2 points)
	Match shapes	1	1
Compares and measures (Measurement and Data)	Identify set that is "less than"	1	1
	Order objects by size	1	1
	Pair numerals with sets	1 (3 sets)	1 (total of 3 points)
	Sort by one attribute	1	1

\*The skills/behaviors listed in the subdomains above are not exhaustive of the skills/domains associated with the Mathematics Domain Common Language Standards, they represent the item types provided for each of those subdomains in the 2020 KRA Form A Test Booklet provided (KRA 2018 Development and Technical Report, p. 49-50).

The KRA 2.0 measures 12 observational-rubric items in the Social Foundations domain worth a total of 24 points, or 25% of the total points across all domains. The three subdomain foundational skill sets identified and measured under this domain are: social emotional, approaches to learning/executive functioning, and social studies. Each of the three domains contain distinct subdomains and item types.

Table 1.5. *Detailed comparison of hierarchical structure and measured Social Foundations skill constructs across the KRA 2.0 assessment.*

Subdomain 1	Subdomain 2	Item	# of Items Observed	# of Items Scored
<b>KRA 2.0</b>				
<b>3</b>	<b>4</b>	<b>12</b>	<b>12</b>	<b>12</b>
Social Emotional	Regulates own emotions and feelings	Express own emotions-	1	1 (total of 2 points)

		Ask familiar adults for help	1	1 (total of 2 points)
		Control impulses and behavior	1	1 (total of 2 points)
		Waits to take turns	1	1 (total of 2 points)
Approaches to learning/executive functioning	Demonstrates positive approaches to learning	Focus on activities	1	1 (total of 2 points)
		Solve problems	1	1 (total of 2 points)
		Express a desire to learn	1	1 (total of 2 points)
		Engage with peers in pretend play	1	1 (total of 2 points)
		Share materials with peers	1	1 (total of 2 points)
	Remembers and connects experiences	Follow multi-step directions	1	1 (2 points)
Social Studies	Shows basic understanding of people and how they live	Explain why rules are needed-	1	1 (total of 2 points)
		Show or explain ways that adults help to keep people safe	1	1 (total of 2 points)

\*The skills/behaviors listed in the subdomains above are not exhaustive of the skills/domains associated with the Social Foundations Domain Common Language Standards, they represent the item types provided for each of those subdomains in the 2020 KRA Form A Test Booklet provided (KRA 2018 Development and Technical Report, p. 52-53).

The KRA 2.0 measures 7 observational-rubric items in the Physical Well-Being and Motor Development domain worth a total of 14 points, or 14% of the total points across all domains. The three subdomain foundational skill sets identified and measured under this domain are identified and associated with the following overarching headings: Physical Education, Health, and Science/Technology. It is important to note that the team did not identify any items in Form A that directly assessed the Science Domain. Each of the two domains assessed in Form A contain distinct subdomains and item types as indicated in Table 1.6 below.

Table 1.6: *Detailed comparison of hierarchical structure and measured Physical Well-Being and Motor Development skill constructs across the KRA 2.0 assessment.*

Subdomain 1	Subdomain 2	Item	Number of Items Observed	Number of Items Scored
<b>KRA 2.0</b>				
<b>3</b>	<b>4</b>	<b>12</b>	<b>12</b>	<b>12</b>
Physical Education	Demonstrates traveling skills	Move through a crowded environment	1	1 (total of 2 points)
	Demonstrates balancing skills	Run, jump, and/or hop	1	1 (total of 2 points)
		Bend, stretch, and/or twist	1	1 (total of 2 points)
	Demonstrates fine-motor strength and coordination	Hold scissors	1	1 (total of 2 points)
		Hold writing tool	1	1 (total of 2 points)
Health	Demonstrates personal health and hygiene practices	Complete personal care tasks	1	1 (total of 2 points)
		Complete health practices	1	1 (total of 2 points)

\*The skills/behaviors listed in the subdomains above are not exhaustive of the skills/domains associated with the Physical Well-Being and Motor Development Domain Common Language Standards, they represent the item types provided for each of those subdomains in the 2020 KRA Form A Test Booklet provided (reference KRA 2018 Development and Technical Report p. 51-52).

### ***Instructional Aims and Teacher Support***

One of the greatest challenges and burdens placed on teachers is utilizing assessment results to identify student needs and plan for instruction that will support student growth and learning in relation to those needs. The team acknowledges that the KRA 2.0 offers teachers the opportunity to utilize results obtained from this assessment to identify students' performance level of kindergarten readiness as emerging, approaching, or demonstrating based on skill measures across the essential domains. Furthermore, that assessment results can be easily generated in the KReady system to offer multiple

formats for aggregating and viewing individual and classroom student results across domains and items. However, it is not clear how these results might be used by teachers to inform instructional planning for supporting student growth and learning in the regular classroom at all performance levels.

Like KRA 2.0, the Gold offers a variety of behavioral indicators to be measured across domains. Furthermore, the evaluation of student performance for each of the behavioral indicators are based on developmental progressions and age/grade level learning established by widely held expectations (WHE) consisting of field vetted early childhood developmental experts (p.6, Teaching Strategies Gold Technical Manual 2020). This potentially allows trained test administrators the opportunity to analyze student strengths and weaknesses on age/grade level appropriate developmental and learning behavioral expectations from birth to 6 years. However, without training and/or administration by a trained administrator, the team has concerns regarding subjectivity as well as teachers' abilities to aggregate this data and use the results to effectively plan for differentiated instruction and formative assessment practices for supporting student progress (allowing teacher/student to set individual growth targets, monitor and self-reflect on student progress). Furthermore, the team is concerned about the practicality in terms of time needed to administer the large variety of one-on-one behavioral tasks associated with the different item-types within normally planned classroom instructional time.

### ***KRA Alignment with South Carolina Kindergarten Standards***

#### ***1C: Is the KRA aligned with the SC Kindergarten standards?***

This section presents a comparative analysis of the items in the Kindergarten Readiness Assessment (KRA) and the South Carolina Kindergarten Standards.

#### ***Degree of Overall Alignment***

The project team conducted an item analysis by comparing each assessment item on the KRA to each indicator across the SC Kindergarten Standards.

To determine alignment, the project team examined if assessment items met, somewhat met, or did not meet standard indicators on the SC Kindergarten Standards.

Assessment items were rated using the following categories: Item Fully Aligned to Indicator (Green), Item Somewhat Aligned to Indicator (Yellow), and Indicator Not Aligned to Indicator (Red)—see Tables Appendices for analysis of each indicator and Tables 1.4-1.5 for alignment summary of indicators. Once the extent of item alignment was determined, the number of indicators across all domains was totaled for each

category. Following this analysis, the project team totaled item and indicator alignment for all domains of the SC Early Learning Standards.

### ***Analysis Results***

The project team examined alignment between the KRA to the SC Kindergarten Standards. The domains examined in the SC Kindergarten Standards were as follows: (1) Literacy, (2) Mathematics, (3) Science, and (4) Social Studies. Findings for the overall analysis of item alignment across total and individual domains indicate that the KRA has low to moderate alignment to indicators for SC Kindergarten Standards.

When examining the Kindergarten standards, assessment items in the KRA fully align with only 9% (or 17 out of 181) of the standard indicators. When combining categories of fully aligned and somewhat aligned, 29% (52 out of 181) of KRA items aligned with standard indicators. Results indicate the KRA does not align with 71% of all Early Learning indicators for Younger Preschoolers. By domain, the KRA aligned most closely to the SC math standards (56% fully or somewhat aligned), followed by the literacy (28%), social studies (14%), and science standards (9%).

Table 1.4: *Item Alignment for Kindergarten Standards – All Domains*

	<b><i>Fully Aligned</i></b>	<b><i>Fully or Somewhat Aligned</i></b>	<b><i>No Alignment</i></b>
<b><i>KRA</i></b>	<b><i>17 (9%)</i></b>	<b><i>52 (29%)</i></b>	<b><i>129 (71%)</i></b>

Table 1.5: *Item Alignment for Kindergarten Standards - By Domain*

	<b><i>Fully Aligned</i></b>	<b><i>Fully or Somewhat Aligned</i></b>	<b><i>No Alignment</i></b>
<b><i>Literacy</i></b>	<b><i>10 (8%)</i></b>	<b><i>34 (28%)</i></b>	<b><i>86 (72%)</i></b>
<b><i>Math</i></b>	<b><i>6 (24%)</i></b>	<b><i>14 (56%)</i></b>	<b><i>11 (44%)</i></b>
<b><i>Science</i></b>	<b><i>0 (0%)</i></b>	<b><i>2 (9%)</i></b>	<b><i>20 (91%)</i></b>
<b><i>Social Studies</i></b>	<b><i>1 (7%)</i></b>	<b><i>2 (14%)</i></b>	<b><i>12 (86%)</i></b>

## ***Evidence of Reliability, Validity, and Fairness/Equity***

### ***1D: What information does the KRA technical manual provide regarding evidence of the reliability, validity, and fairness/equity of score interpretations and the purpose/use of testing information?***

Table 1.3-1.6 summarize the information we gleaned from the technical manual.

For validity evidence, we examined data provided by the publishers in five areas: content validity, concurrent and predictive criterion-related validity, construct validity, and item bias/fairness.

Content validity evidence focuses on whether the assessment adequately covers the content area. The items on the KRA are aligned to the Common Language Standards that are used in The KRA technical manual report identifies item alignment to the Common Language Standards and the use of multiple test items in assessing student development and learning across those standards . This alignment was reviewed with feedback based on field testing and pilots conducted by early childhood educators and state department representatives. Results of these efforts were further supported empirically using Item Response Theory techniques.

Construct validity evidence provides data to show that the concept is being fully and accurately assessed. The KRA provided construct validity based on cognitive interviews and teacher surveys conducted during the pilot and field tests. Feedback indicated that student response processes were consistent with the intended design of items in measuring the construct domains.

The KRA does provide two additional field supports for students with disabilities and ELL learners that provide detailed guidelines on how to provide and use universally designed support strategies for test administration to students with disabilities and ELL learners. Outside of these supports, there is no other convincing evidence that the KRA 2.0 is fair and unbiased toward minority populations. We raise the concern that being similarly stable within each subgroup does not imply that the test is fair and consistent across subgroups. The technical manual for the KRA did not provide any evidence that they analyzed their test for item bias or fairness.

Criterion-related validity evidence shows the relationship of data gathered on the instrument in question compared to a similar, external assessment, both assessing the same group of children. The two types of criterion-related validity evidence are concurrent and predictive. In the former, the external assessment is given to the same children at the same time as the assessment being validated. In the latter the assessment is given to the children, and then at some future time they are assessed

using the external assessment. The correlation of assessment scores on both assessments is evidence of criterion-related validity. The KRA 2.0 provided neither.

Reliability evidence aims to provide the test user with confidence that a score for a student is accurate, since tests are typically given only once. Reliability evidence is usually provided as inter-rater, internal consistency, or classification consistency and sensitivity. Inter-rater reliability evidence is when two raters score the same students independently and their scores are correlated. Internal consistency evidence shows all items relating with each other and the overall score. Classification consistency and sensitivity evidence show that the same child is placed in the same category (for example: emerging, approaching, demonstrating readiness) consistently, often focusing on those near the borderline.

The KRA provided evidence of internal consistency reliability (Cronbach's alpha) across all domains. Additionally, all educators administering the assessment must complete training on the administration and scoring processes, along with passing a content assessment. The team acknowledges that while teachers are required to go through training, no inter-rater reliability evidence was provided in terms of observation rubric classifications.

### ***KRA Alignment with South Carolina Early Learning Standards and Profile of the Ready Kindergartner***

***1E: a) Which assessment (IDGIs-EL, PALS-PreK, Teaching Strategies Gold, or the KRA) more completely assesses the ELS?***

When examining the Younger Preschoolers specifically, assessment items in the Gold, the IDGIs-EL, PALS-PreK, and the KRA were found to fully align with 15%, 2%, 5%, and 21% of the standard indicators, respectively.

Results for Older Preschoolers were similar. Assessment items for the Gold were found to fully align with 27% of standard indicators. The IDGIs-EL fully aligned to 1%, the PALS-PreK fully aligned to 3%, and the KRA fully aligned to 13% of standard indicators.

Based on these results, the GOLD and KRA had similar alignment to the Younger Preschooler ELS, however the GOLD showed significantly higher alignment with the standards for Older Preschools when compared to all other assessments. These findings are only representative of the entire Gold assessment, not the current requirement of only implementing the Language and Literacy domain in SC.



Table 1.7: *Item Alignment for Younger Preschooler – All Domains*

	<i>Fully Aligned</i>	<i>Somewhat</i>	<i>Fully or Somewhat</i>	<i>No Alignment</i>
<b><i>TS Gold</i></b>	<b>29 (15%)</b>	<b>72 (37%)</b>	<b>52%</b>	<b>48%</b>
<b><i>IGDIs-EL</i></b>	<b>3 (2%)</b>	<b>15 (8%)</b>	<b>9%</b>	<b>91%</b>
<b><i>PALS-PreK</i></b>	<b>9 (5%)</b>	<b>17 (9%)</b>	<b>13%</b>	<b>87%</b>
<b><i>KRA</i></b>	<b>40 (21%)</b>	<b>70 (36%)</b>	<b>57%</b>	<b>43%</b>

Table 1.8: *Item Alignment for Older Preschooler - All Domains*

	<i>Fully Aligned</i>	<i>Somewhat</i>	<i>Fully or Somewhat</i>	<i>No Alignment</i>
<b><i>TS Gold</i></b>	<b>63 (27%)</b>	<b>145 (62%)</b>	<b>90%</b>	<b>10%</b>
<b><i>IGDIs-EL</i></b>	<b>3 (1%)</b>	<b>9 (4%)</b>	<b>5%</b>	<b>95%</b>
<b><i>PALS-PreK</i></b>	<b>7 (3%)</b>	<b>22 (10%)</b>	<b>13%</b>	<b>87%</b>
<b><i>KRA</i></b>	<b>29 (13%)</b>	<b>95 (41%)</b>	<b>54%</b>	<b>46%</b>

***1E: b) Which assessment (IGDIs-EL, PALS-PreK, Teaching Strategies Gold, or the KRA) more completely assesses the Profile of the Ready Kindergartener?***

When comparing these four assessments to the SC Profile of the Ready Kindergartener, the GOLD and KRA were most closely aligned. The KRA fully or somewhat aligned to 70% of the indicators under the SC Profile. The GOLD fully or somewhat aligned with 87% of these indicators. The PALS and IGDIs-EL showed minimal alignment to the SC Profile. The IGDIs items fully aligned with 2% (1 out of 63) of indicators, and somewhat aligned with 3% (2 out of 63) leaving 95% not aligned. The PALS-PreK fully aligned with 10% (6 out of 63) of indicators, and somewhat aligned with 8% (5 out of 63) leaving 82% not aligned.

Based on these results, the GOLD showed the most alignment and the KRA yielded similar results. It is important to again note that the GOLD alignment was conducted

using the full 38 observation indicators for the GOLD, rather than only the Language and Literacy domain items, which is currently the state requirement.

Table 1.9: *Item Alignment for Profile of the Ready Kindergartener*

	<i>Fully Aligned</i>	<i>Somewhat</i>	<i>Fully or Somewhat</i>	<i>No Alignment</i>
<i>TS Gold</i>	<b>27 (45%)</b>	<b>25 (42%)</b>	<b>87%</b>	<b>13%</b>
<i>IGDIs-EL</i>	<b>1 (2%)</b>	<b>2 (3%)</b>	<b>5%</b>	<b>95%</b>
<i>PALS-PreK</i>	<b>6 (10%)</b>	<b>5 (8%)</b>	<b>18%</b>	<b>82%</b>
<i>KRA</i>	<b>27 (45%)</b>	<b>15 (25%)</b>	<b>70%</b>	<b>30%</b>

### ***Accuracy and reliability of the KRA in measuring Kindergarten Readiness***

**2A: What are the strengths/weaknesses of the psychometric properties of the KRA in measuring readiness?**

Table 2.1: *Strengths and weaknesses of the KRA psychometric properties*

<b>STRENGTHS</b>	<b>WEAKNESSES</b>
Aligned with essential domains of school readiness according to the U.S. Department of Education	Very few items (e.g., two items to assess student understanding of beginning word sounds)
Offers item measures across all domains	Possible subjectivity in teacher classification of observation item scores as emerging, approaching, or demonstrating
Offers a variety of item types (selected-response, performance-task, observational)	Does not allow for identifying deficits in pre-requisite skills as a means of diagnosing and planning targeted differentiated instruction to foster rigorous

	but reasonable student growth targets, foster student goal setting, and inform parents
Uses scaled scores	Does not provide criterion-related validity measures
Used cognitive interviews and teacher surveys to establish construct validity	
Assessment is practical given the short timeframe needed to perform	

***2B: What are the strengths/weaknesses of reliability of the assessment for different groups of students (race, gender, SES)?***

The KRA did not provide convincing evidence that it is fair and unbiased toward students falling into subcategories of race/ethnicity, sex/gender, urban/suburban/rural, or geographic location. However, it did provide guidelines on universally designed field supports to guide teachers when administering to students with disabilities and ELL learners. The team recommends differential item functioning research be done on the tests used by South Carolina to provide evidence that the populations at risk in the state (for example, focal groups such as minoritized races and ethnicities, children in ESOL families, children in rural schools, and low-income districts) are being assessed in an unbiased way, and that test results are being used fairly. In terms of reliability, an indication of how much confidence one can put in the accuracy of a score, the KRA provided convincing evidence of internal consistency, with Cronbach's Alpha levels ranging between 0.93 to 0.82 across the domains. As a further measure of reliability, the KRA described teacher training activities (e.g., stimulator modeling of proper administration and scoring processes) along with successful completion of a content assessment. However, it did not provide statistical evidence of inter-rater reliability for the observational-rubric items. This is problematic since observational-rubric items represent 24/26 of the KRA assessment items.

***Recommendations***

When examining all four assessments (PALS-PreK, IGDIs-EL, GOLD, and KRA) across the Early Learning Standards and the SC Profile of a Ready Kindergartener, it is clear that the PALS-PreK and IGDIs assessments do not align well with these frameworks.

These two assessments work to assess literacy standards but do not provide a well-balanced picture of student ability in multiple domains.

To better understand each child’s readiness for kindergarten, the GOLD (all domains) and the KRA are more comprehensive and closely aligned with ELS and Kindergarten standards as well as the Profile of a Ready Kindergartner. While the original scope of work for this alignment (in spring 2022) included the GOLD assessment, it was limited to the Language and Literacy domain of the overall instrument. When considering each of the 38 observational indicators within the full GOLD, it meets or partially meets 52% of the Younger ELS, 90% of the Older ELS, and 87% of the indicators on the Profile of a Ready Kindergartner. Comparatively, the KRA meets or partially meets 57% of the Younger ELS, 54% of the Older ELS, 52% of the Kindergarten standards, and 70% of the indicators on the Profile of a Ready Kindergartner. While neither of these assessments are fully aligned with any of these frameworks, they align with over half of the standard indicators, demonstrating that both assessments (the KRA or the GOLD in its entirety) would be useful in providing an overall picture of school readiness for students across South Carolina. The table below shows an overall comparison of the KRA and the GOLD to the ELS and Ready Profile. As the scope of work did not include examining the GOLD in comparison to the kindergarten standards (only the KRA), the alignment data for the Kindergarten standards and the GOLD is not provided.

Table 2.2: *TS Gold and KRA Item Alignment*

	Early Learning Standards - Younger			Early Learning Standards- Older			South Carolina Profile of a Ready Kindergartener			South Carolina Kindergarten Standards		
Alignment	Fully	Some	No	Fully	Some	No	Fully	Some	No	Fully	Some	No
Gold	<b>15%</b>	<b>37%</b>	<b>48%</b>	<b>27%</b>	<b>62%</b>	<b>10%</b>	<b>45%</b>	<b>42%</b>	<b>13%</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
KRA	<b>21%</b>	<b>36%</b>	<b>46%</b>	<b>13%</b>	<b>41%</b>	<b>46%</b>	<b>45%</b>	<b>25%</b>	<b>30%</b>	<b>9%</b>	<b>19%</b>	<b>71 %</b>

It is important to consider the implementation of each assessment when making decisions about which tool gives the most accurate information on child growth and development. While the GOLD shows the most alignment, this assessment is a fully observational instrument and requires a substantial time commitment to implement, particularly if it is implemented more than once during the school year. It also requires

significant training and established interrater reliability amongst observers to determine fidelity of implementation. The GOLD consists of 38 observation indicators across all domains. Each observation indicator is assessed using a nine-point rating scale. The assessment provides examples for each level on this 9-point scale, however it may be difficult for teachers to use this discrete scale during implementation if they are teaching simultaneously.

The KRA uses a combination of observational and performance indicators. The KRA consists of 24 observation indicators across domains and utilizes a three-point rating scale, which may be easier for teachers to use objectively. The KRA also has 26 performance-based indicators which are implemented one on one with each child by the assessor. The table below further compares the KRA and the GOLD.

Table 2.3: *Gold and KRA Item Alignment*

	Kindergarten Readiness Assessment	Teaching Strategies Gold
Positives	<ul style="list-style-type: none"> <li>• More than half of ELS (younger and older) and kindergarten standards are met/somewhat met</li> <li>• More than half of indicators on the SC Profile are met/somewhat met</li> <li>• Ease of implementation (Performance items can be assessed prior to school start)</li> <li>• Combination of performance and observation items allows for increased objectivity while also providing deeper insight about each child</li> <li>• 3-point rubric is easier for teachers to score</li> </ul>	<ul style="list-style-type: none"> <li>• More than half of standards are met/somewhat met</li> <li>• More than half of indicators on the SC Profile are met/somewhat met</li> <li>• Inclusion of visual and performative arts within scope of assessment</li> <li>• Ability of school to implement all or part of assessment (however number of standards met is based on the entire assessment)</li> <li>• Substantive assessment, gives a full picture of the child</li> <li>• History of use across the country with positive feedback</li> </ul>
Negatives	<ul style="list-style-type: none"> <li>• Observational items can be hard to complete at beginning of the year</li> </ul>	<ul style="list-style-type: none"> <li>• Fully observational tool (including 38 different objectives) requires time</li> </ul>

	<ul style="list-style-type: none"> <li>Indicators related to social studies and science on kindergarten standards have very little alignment to KRA</li> <li>Interrater reliability could be difficult to establish for observational items</li> </ul>	<p>across the year to complete and training for observers</p> <ul style="list-style-type: none"> <li>Interrater reliability could be difficult to establish</li> </ul>
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From a feasibility standpoint, the project team recommends refocusing assessment efforts to focus on 4K (rather than 5K) as the assessment alignment is stronger overall with the ELS standards. The kindergarten standards are meant to provide a picture of student mastery at the end of kindergarten. As the goal is to determine readiness for kindergarten, using the ELS and Ready Profile to examine alignment provides a better framework. Based on the results outlined above, if the SC Education Oversight Committee is seeking a holistic assessment to provide a full picture of school readiness, the project team recommends focusing on the KRA and the GOLD as options for state approved assessments.

However, ultimately the team recommends examining the potential of the KRA as a pre/post assessment at the beginning and end of 4K as the combination of performance indicators and observation items allows for a more complete picture of student readiness with less subjectivity than a fully observational instrument. The team recommends conducting a review and potential revision of the ELS standards at the Younger and Older Preschooler levels. This revision should be conducted in conjunction with a SC-driven KRA revision to meet additional ELS standards that can be captured through a few additional observation and performance items. These revisions should also consider alignment with the SC Profile of a Ready Kindergartner to ensure consistency across frameworks.

The GOLD holds great potential as an ongoing formative assessment used at the classroom level to provide a substantive picture of student progress (much like the Measure of Academic Progress or MAP assessment at the K-12 level). If the GOLD is also included as a state approved assessment moving forward, an analysis of domains should be included, as the current requirement is limited to the Language and Literacy domain, which provides much less alignment to ELS than the KRA.

Regardless of which assessment(s) are required moving forward, the project team recommends that training is incorporated for teachers on assessment procedures and steps are taken to ensure inter-rater reliability. Further, the project team recommends continued analysis of assessment practices across school districts to determine overall

recommendations for implementation. Recommendations regarding who should conduct assessments, how to implement assessments with fidelity, and when to conduct assessments should be established prior to requiring these assessments. The SC EOC should also consider the impact of assessment practices on teachers and students. Minimizing classroom disruptions should be a priority. As such, the project team recommends developing policies around implementation that support teachers (for example: staggered starts, external assessors, providing pay for substitutes, etc.).

Finally, continued analysis of assessment implementation should occur, specifically differential item functioning research to provide evidence that populations at risk (for example, focal groups such as minoritized races and ethnicities, children in ESOL families, children in rural schools, and low-income districts) are being assessed in an unbiased way, and that test results are being used fairly.

## Appendix A: Individual Item Alignment Tables

Assessment items were rated using the following categories: Item Fully Aligned to Indicator (Green), Item Somewhat Aligned to Indicator (Yellow), and Indicator Not Aligned (Red).

**Table A.1: Younger Preschoolers Alignment Table: APPROACHES TO LEARNING**

Younger Preschoolers (36-48 months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Curiosity, Information-Seeking, Eagerness</b>				
<b>Goal APL-1: Children show curiosity and express interest in the world around them.</b>				
Discover things that interest and amaze them and seek to share them with others. APL-1j	9. Uses language to express thoughts and needs  10. Uses appropriate conversational and other communication skills  a. Engages in conversations			28. Engage in conversations 38. Express a desire to learn
Communicate interest to others through verbal and nonverbal means APL-1k	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary  b. Speaks clearly  10. Uses appropriate conversational and other communication skills			38. Express a desire to learn 39. Engage with peer in pretend play



	a. Engages in conversations b. Uses social rules of language			
Show interest in a growing range of topics, ideas, and tasks. APL-1l				38. Express a desire to learn
<b>Goal APL-2: Children actively seek to understand the world around them.</b>				
Ask questions about the people and things around them. APL-2i	9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills b. Uses social rules of language			28. Engage in conversations 38. Expresses a desire to learn
Use all available senses, tools, and a variety of strategies to explore the environment. APL-2j				
Purposely try different ways of doing things to see what and how they work. APL-2k				37. Solves Problems
<b>Subdomain: Play and Imagination</b>				
<b>Goal APL-3: Children engage in increasingly complex play</b>				

Engage in dramatic play themes that include interacting with other children, but often are not coordinated. APL-3m	10. Uses appropriate conversational and other communication skills  a. Engages in conversations			39. Engages with peers in pretend play 40. Shares materials with peers
Talk to peers and share materials during play. APL-3n	9. Uses language to express thoughts and needs			28. Engage in conversations 33. Control impulses and behavior 34. Wait to take turns 39. Engage with peers in pretend play 40. Shares materials with peers
Engage in make-believe play with imaginary objects. APL-3o				39. Engage with peers in pretend play
Use language to begin and carry on play with others. APL-3p	8. Listens to and understands increasingly complex language  a. Comprehends language  9. Uses language to express thoughts and needs  10. Uses appropriate conversational and other communication skills  a. Engages in conversations  b. Uses social rules of language			28. Engage in conversations 31. Expresses own emotions 34. Wait to take turns 39. Engage with peers in pretend play

Express knowledge of their everyday lives and culture through play APL-3q	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary d. Tells about another time or place 10. Uses appropriate conversational and other communication skills a. Engages in conversations			39. Engage with peers in pretend play
<b>Goal APL-4: Children demonstrate creativity, imagination, and inventiveness</b>				
Offer new ideas about how to do or make things. APL-4h	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			28. Engage in conversations 38. Expresses a desire to learn
Add new actions, props, or dress-up items to pretend play. APL-4i				39. Engage with peers in pretend play
Use materials or actions to represent experiences or ideas in novel ways. APL-4j				
Experiment with language, musical sounds, and movement. APL-4k	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary	Rhyming (all) Sound Identification (all) Alliteration (all)	Section II: Letter Sounds Section III: Beginning Sound Awareness (all)	30. Use words that reflect variety, specificity, and complexity

			Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	
<b>Subdomain: Risk-Taking, Problem-Solving, and Flexibility</b>				
<b>Goal APL-5: Children are willing to try new and challenging experiences</b>				
Express a belief that they can do things that are hard. APL-5k				31. Express own emotions
Choose to participate in an increasing variety of familiar and new experiences. APL-5l				35. Focus on activities 38. Express a desire to learn
Accept new challenges when offered. APL-5m				38. Express a desire to learn
Try things they are not sure they can do, while avoiding dangerous risks APL-5n				38. Express a desire to learn
<b>Goal APL-6: Children use a variety of strategies to solve problems</b>				
Seek and make use of ideas and help from adults and peers to solve problems APL-6k	8. Listens to and understands increasingly complex language  a. Comprehends language  b. Follows directions			28. Engage in conversations 32. Ask familiar adults for help 37. Solve problems 38. Express a desire to learn 39. Engage with peers in pretend play
Purposefully use a variety of strategies to solve different types of problems. APL-6l				37. Solve problems

Talk to themselves to work through the steps to solve a problem. APL-6m				37. Solve problems
<b>Subdomain: Attentiveness, Effort, and Persistence</b>				
<b>Goal APL-7: Children demonstrate initiative</b>				
Show increasing independence and purpose when making choices. APL-7h				
Express goals or plans and follow through on them. APL-7i	9. Uses language to express thoughts and needs  10. Uses appropriate conversational and other communication skills			
Makes decisions about materials needed to carry out a task. APL-7j				

<b>Goal APL-8: Children maintain attentiveness and focus</b>				
Focus on age-appropriate activities for a short period of time, even with interruptions APL-8h				33. Control impulses and behavior 35. Focus on activities
Remain engaged in more complex activities that they have chosen. APL-8i				35. Focus on activities 38. Express a desire to learn

Maintain focus and return to an activity after a break. APL-8j				33. Control impulses and behavior 35. Focus on activities
<b>Goal APL-9: Children persist in challenging activities</b>				
Seek help from others to complete a challenging activity APL-9e	9. Uses language to express thoughts and needs			32. Ask familiar adults for help
When something does not work, try different ways to complete the task APL-9f				37. Solve problems
Keep working to complete tasks, including those that are somewhat difficult. APL-9g				33. Control impulses and behavior 35. Focus on activities

**Table A.2: Older Preschoolers Alignment Table: APPROACHES TO LEARNING**

Older preschoolers (48-60+ months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Curiosity, Information-Seeking, Eagerness</b>				
<b>Goal APL-1: Children show curiosity and express interest in the world around them.</b>				
Communicate interest to others through verbal and nonverbal means (take teacher to the science center to see a new animal). APL-1m	9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills 11. Demonstrates positive approaches to learning d. Shows curiosity and motivation			28. Engage in conversations 38. Express a desire to learn
Discover things that interest and amaze them and seek to share them with others. APL-1n	9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills a. Engages in conversations 11. Demonstrates positive approaches to learning d. Shows curiosity and motivation			38. Express a desire to learn 39. Engage with peers in pretend play
Show interest in a growing range of topics, ideas, and tasks. APL-1o	11. Demonstrates positive approaches to learning 12. Remembers and connects experiences			38. Express a desire to learn
Demonstrate interest in mastering new skills (e.g., writing name, riding a bike, dance moves, building skills). APL-1p	11. Demonstrates positive approaches to learning a. Attends and engages b. Persists			1. Count to 20 29. Write first name 38. Express a desire to learn 43. Run, Jump, and/or Hop 44. Bend, stretch, and/or twist
<b>Goal APL-2: Children actively seek to understand the world around them.</b>				

Ask questions to find out more about the things that interest them, including questions about future events. APL-2l	9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills b. Uses social rules of language 11. Demonstrates positive approaches to learning d. Shows curiosity and motivation			28. Engage in conversations 38. Express a desire to learn
Choose among different ways to explore the environment based on experience (use a magnifying glass that the class used before to explore something new). APL-2m	11. Demonstrates positive approaches to learning d. Shows curiosity and motivation 24. Uses scientific inquiry skills			
Use what they know from experience to understand what is happening now (get an umbrella to go outside because it is raining). APL-2n	11. Demonstrates positive approaches to learning e. Shows flexibility and inventiveness in thinking			37. Solves Problems
<b>Subdomain: Play and Imagination</b>				
<b>Goal APL-3: Children engage in increasingly complex play.</b>				
Develop and sustain more complex pretend play themes in cooperation with peers. APL-3r	9. Uses language to express thoughts and needs d. Tells about another time or place 10. Uses appropriate conversational and other communication skills a. Engages in conversation			39. Engage with peers in pretend play 40. Share materials with peers



Use more complex and varied language to share ideas and influence others during play. APL-3s	10. Uses appropriate conversational and other communication skills			28. Engage in conversations 39. Engage with peers in pretend play 40. Shares materials with peers
Choose to use new knowledge and skills during play (add features to dramatic play scene related to class project, write list, build structure like displayed picture). APL-3t	14. Uses symbols and images to represent something not present b. Engages in sociodramatic play			39. Engage with peers in pretend play
Demonstrate their cultural values and “rules” through play (tell another child, “That’s not what we eat for breakfast.”). APL-3u	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			39. Engage with peers in pretend play 41. Explain why rules are needed
<b>Goal APL-4: Children demonstrate creativity, imagination, and inventiveness.</b>				
Plan play scenarios (dramatic play, construction), and use or create a variety of props or tools to enact them. APL-4l	14. Uses symbols and images to represent something not present b. Engages in sociodramatic play			28. Engage in conversations 39. Engage with peers in pretend play
Expand the variety of roles taken during dramatic play and add more actions, language, or props to enact roles. APL-4m	14. Uses symbols and images to represent something not present			28. Engage in conversations 39. Engage with peers in pretend play
Use materials or actions in increasingly varied and resourceful ways to represent experiences or ideas. APL-4n	14. Uses symbols and images to represent something not present			
Make up stories, songs, or dances for fun during play. APL-4o	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			30. Use words that reflect variety, specificity, and complexity

Invent new games. APL-4p	11. Demonstrates positive approaches to learning e. Shows flexibility and inventiveness in thinking			
<b>Subdomain: Risk-Taking, Problem-Solving, and Flexibility</b>				
<b>Goal APL-5: Children are willing to try new and challenging experiences.</b>				
Express a belief that they can do things that are hard. APL-5o	11. Demonstrates positive approaches to learning a. Attends and engages b. Persists			31. Express own emotions
Approach new experiences independently. APL-5p	1. Regulates own emotions and behaviors c. Takes care of own needs appropriately			35. Focus on activities 37. Solve problems 38. Express a desire to learn
Ask to participate in new experiences that they have observed or heard about. APL-5q	11. Demonstrates positive approaches to learning d. Shows curiosity and motivation			38. Express a desire to learn
Independently seek new challenges. APL-5r	11. Demonstrates positive approaches to learning d. Shows curiosity and motivation			38. Express a desire to learn
<b>Goal APL-6: Children use a variety of strategies to solve problems.</b>				
Seek and make use of ideas and help from adults and peers to solve problems (“How can I make this paint get off my pants?”). APL-6n	9. Uses language to express thoughts and needs			28. Engage in conversations 32. Ask familiar adults for help 37. Solve problems 38. Express a desire to learn 39. Engage with peers in pretend play
Describe the steps they will use to solve a problem. APL-6o	11. Demonstrates positive approaches to learning c. Solves problems			37. Solve problems
Evaluate different strategies for solving a problem and select the strategy they feel will work without having to try it. APL-6p	11. Demonstrates positive approaches to learning c. Solves problems			37. Solve problems

Explain how they solved a problem to another person. APL-6q	9. Uses language to express thoughts and needs 11. Demonstrates positive approaches to learning c. Solves problems			37. Solve problems
<b>Subdomain: Attentiveness, Effort, and Persistence</b>				
<b>Goal APL-7: Children demonstrate initiative.</b>				
Show increasing independence and purpose when making choices (“I’m going to the block area to make a track for my race car.”). APL-7k	11. Demonstrates positive approaches to learning d. Shows curiosity and motivation			
Independently identify and seek things they need to complete activities or tasks (gather supplies and make a birthday card with a message). APL-7l				
Set simple goals that extend over time, make plans and follow through (“Let’s make a rocket ship. We need blocks.”). APL-7m				
<b>Goal APL-8: Children maintain attentiveness and focus.</b>				
Sometimes able to focus on what is relevant to a task (sort multicolored wooden beads by shape). APL-8k	11. Demonstrates positive approaches to learning a. Attends and engages b. Persists			33. Control impulses and behavior 35. Focus on activities
Consistently remain engaged in self-directed activities. APL-8l	11. Demonstrates positive approaches to learning a. Attends and engages b. Persists			35. Focus on activities 38. Express a desire to learn
Shift attention back to a task after having been diverted from it. APL-8m	11. Demonstrates positive approaches to learning a. Attends and engages b. Persists			33. Control impulses and behavior 35. Focus on activities
<b>Goal APL-9: Children persist at challenging activities</b>				

Seek help from others to complete a challenging activity (ask a teacher for help putting a puzzle away on a high shelf; ask a friend for help in naming an unfamiliar animal in a picture). APL-9h	1. Regulates own emotions and behaviors c. Takes care of own needs appropriately 9. Uses language to express thoughts and needs			32. Ask familiar adults for help
When something does not work, try different ways to complete the task (when a block tower falls, try putting the blocks together in a different way to build the tower again). APL-9i	11. Demonstrates positive approaches to learning e. Shows flexibility and inventiveness in thinking			37. Solve problems
Plan and follow through on longer-term tasks (planting a seed and caring for the plant). APL-9j	11. Demonstrates positive approaches to learning b. Persists			35. Focus on activities
Keep trying until a challenging activity is complete despite distractions or interruptions (multi-piece puzzle started before lunch and completed later.) APL-9k	11. Demonstrates positive approaches to learning b. Persists e. Shows flexibility and inventiveness in thinking			33. Control impulses and behavior 35. Focus on activities

**Table A.3: Younger Preschoolers Alignment Table: EMOTIONAL AND SOCIAL DEVELOPMENT (ESD)**

Younger Preschoolers (36-48 months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Developing and Sense of Self</b>				
<b>Goal ESD-1: Children demonstrate a positive sense of self identity and self-awareness</b>				
Describe self ESD-1k	9. Uses language to express thoughts and needs			
Express a sense of belonging to a group ESD-1l				39. Engage with peers in pretend play
Use own first and last name. ESD-1m			Section I: Name Writing	29. Write first name
Choose activities they like and name their favorite activities. ESD-1n				35. Focus on activities 38. Express a desire to learn
<b>Goal ESD-2: Children express positive feelings about themselves and confidence in what they can do</b>				
Express positive feelings about themselves by showing and/or telling others about themselves, things they like, or things they have done. ESD-2k	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary  10. Uses appropriate conversational and other communication skills  a. Engages in conversations			28. Engage in conversations

Express the belief that they can do many things. ESD-2l	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			38. Express a desire to learn
Try new activities and attempt new challenges. ESD-2m				38. Express a desire to learn
<b>Subdomain: Developing a Sense of Self with Others</b>				
<b>Goal ESD-3: Children form relationships and interact positively with familiar adults who are consistent and responsive to their needs</b>				
Seek out trusted teachers and caregivers as needed. ESD-3o				32. Ask familiar adults for help
Show affection for adults they are close to. ESD-3p				
Given time, form positive relationships with new teachers or caregivers. ESD-3q				
Show ease and comfort in their interactions with familiar adults. ESD-3r				32. Ask familiar adults for help
Ask for assistance from adults. ESD-3s	9. Uses language to express thoughts and needs			32. Ask familiar adults for help

<b>Goal ESD-4: Children form relationships and interact positively with other children</b>				
Demonstrate social skills when interacting with other children. ESD-4k	10. Uses appropriate conversational and other communication skills  b. Uses social rules of language			28. Engage in conversations 33. Control impulses and behavior 34. Wait to take turns 39. Engage with peers in pretend play 40. Share materials with peers
Form and maintain friendships with a few other children. ESD-4l				28. Engage in conversations 39. Engage with peers in pretend play
Identify another child as a friend. ESD-4m				
Approach other children easily, expecting positive interactions. ESD-4n				28. Engage in conversations 39. Engage with peers in pretend play 40. Share materials with peers
Show ease and comfort in their interactions with familiar children. ESD-4o				28. Engage in conversations 39. Engages with peers in pretend play
<b>Goal ESD-5: Children demonstrate the social and behavioral skills needed to successfully participate in groups</b>				
Follow social rules, transitions, and routines that have been explained to them, with reminders and practice. ESD-5k	8. Listens to and understands increasingly complex language  a. Comprehends language  b. Follows direction			36. Follow multi-step directions 47. Follow basic safety rules
Often make requests clearly and effectively. ESD-5l	9. Uses language to express thoughts and needs			32. Ask familiar adults for help

	b. Speaks clearly			
Show awareness that their actions affect others. ESD-5m				33. Control impulses and behavior
Wait for a short time to get what they want. ESD-5n				34. Wait to take turns 40. Share materials with peers
Work to resolve conflicts effectively, with guidance and support. ESD-5o				
Notice and accept similarities and differences among all people, including people with disabilities. ESD-5p				
<b>Subdomain: Learning About Feelings</b>				
<b>Goal ESD-6: Children identify, manage, and express their feelings</b>				
Express a range of emotions with their face, body, vocal sounds, and words. ESD-6l	9. Uses language to express thoughts and needs b. Speaks clearly			31. Express own emotions
Use a variety of words or signs to express and manage feelings more clearly. ESD-6m	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly			31. Express own emotions
Describe reasons for their feelings. ESD-6n	9. Uses language to express thoughts and needs			31. Express own emotions



Goal ESD-7: Children recognize and respond appropriately to the needs and feelings of others			
Try to comfort another child or an adult who is upset (bring a comfort object, pat the person on the back). ESD-7j	9. Uses language to express thoughts and needs		
Communicate concern for others ESD-7k	9. Uses language to express thoughts and needs		
Offer help to meet the needs of others ESD-7l	9. Uses language to express thoughts and needs		
Show awareness that other people have different feelings ESD-7m	8. Listens to and understands increasingly complex language		

**Table A.4: Older Preschoolers Alignment Table: EMOTIONAL AND SOCIAL DEVELOPMENT (ESD)**

Older Preschoolers (48-60+ months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Developing and Sense of Self</b>				
<b>Goal ESD-1: Children demonstrate a positive sense of self identity and self-awareness</b>				
Describe themselves in concrete ways, with greater detail and accuracy (“My eyes are brown.” “I am tall.”). ESD-1o	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Express awareness that they are members of different groups (e.g., family, preschool class, ethnic group). ESD-1p				39. Engage with peers in pretend play
Choose to spend more time on preferred activities, and express awareness of skills they are developing. ESD-1q				35. Focus on activities 38. Express a desire to learn
<b>Goal ESD-2: Children express positive feelings about themselves and confidence in what they can do</b>				
Express positive feelings about themselves by showing and/or telling others about themselves, things they like, or things they have done. ESD-2n	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 10. Uses appropriate conversational and other communication skills a. Engages in conversations			28. Engage in conversation
Express the belief that they can do many things. ESD-2o	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			Express a desire to learn
Stick with tasks even when they are challenging. ESD-2p	11. Demonstrates positive approaches to learning b. Persists			35. Focus on activities

Express opinions about their abilities in different areas (“I’m a good friend.” “I can run fast.” “I know all my letters!”). ESD-2q	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
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### Subdomain: Developing a Sense of Self with Others

#### Goal ESD-3: Children form relationships and interact positively with familiar adults who are consistent and responsive to their needs

Seek out trusted teachers and caregivers as needed. ESD-3t	1. Regulates own emotions and behaviors c. Takes care of own needs appropriately 2. Establishes and sustains positive relationships a. Forms relationships with adults			32. Ask familiar adults for help
Form positive relationships with new teachers or caregivers over time. ESD-3u	2. Establishes and sustains positive relationships a. Forms relationships with adults			
Use language effectively to continue conversations with familiar adults and to influence their behavior (ask for help, ask an adult to do something). ESD-3v	2. Establishes and sustains positive relationships a. Forms relationships with adults 10. Uses appropriate conversational and other communication skills a. Engages in conversations b. Uses social rules of language			32. Ask familiar adults for help 28. Engage in conversations

#### Goal ESD-4: Children form relationships and interact positively with other children

Demonstrate social skills when interacting with other children. ESD-4p	1. Regulates own emotions and behaviors 2. Establishes and sustains positive relationships b. Responds to emotional cues c. Interacts with peers d. Makes friends			28. Engage in conversations 33. Control impulses and behavior 34. Wait to take turns 39. Engage with peers in pretend play 40. Share materials with peers
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	10. Uses appropriate conversational and other communication skills b. Uses social rules of language			
Form and maintain friendships with other children of diverse cultural backgrounds and abilities. ESD-4q	2. Establishes and sustains positive relationships c. Interacts with peers d. Makes friends			28. Engage in conversations 39. Engage with peers in pretend play
Seek and give support with children they identify as friends. ESD-4r	3. Participates cooperatively and constructively in group situations			40. Share materials with peers
Use language effectively to have conversations with other children and influence another child's behavior (negotiate sharing a toy, plan how to build a block tower together). ESD-4s	2. Establishes and sustains positive relationships c. Interacts with peers d. Makes friends 10. Uses appropriate conversational and other communication skills a. Engages in conversations b. Uses social rules of language			28. Engage in conversations 39. Engage with peers in pretend play 40. Share materials with peers
Play and interact cooperatively with other children (work on project together, exchange ideas). ESD-4t	3. Participates cooperatively and constructively in group situations			28. Engage in conversations 39. Engage with peers in pretend play
<b>Goal ESD-5: Children demonstrate the social and behavioral skills needed to successfully participate in groups</b>				
Follow social rules, transitions, and routines that have been explained to them. ESD-5r	8. Listens to and understands increasingly complex language a. Comprehends language b. Follows direction			36. Follow multi-step directions 47. Follow basic safety rules
Make requests clearly and effectively most of the time. ESD-5s	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly			32. Ask familiar adults for help

Balance their own needs with those of others in the group. ESD-5t	3. Participates cooperatively and constructively in group situations a. Balances needs and rights of self and others			40. Share materials with peers
Anticipate consequences and plan ways to solve problems effectively, with guidance and support. ESD-5u	3. Participates cooperatively and constructively in group situations b. Solves social problems			37. Solve Problems
Use a variety of strategies to solve problems and conflicts with increasing independence. ESD-5v	3. Participates cooperatively and constructively in group situations b. Solves social problems			37. Solve Problems
Express respect and caring for all people, including people with disabilities. ESD-5w	3. Participates cooperatively and constructively in group situations a. Balances needs and rights of self and others			
Recognize and honor cultural differences. ESD-5x				
<b>Subdomain: Learning About Feelings</b>				
<b>Goal ESD-6: Children identify, manage, and express their feelings</b>				
Express a range of emotions happiness, sadness, fear, anger, disgust, tenderness, hostility, shame, guilt, satisfaction, and love) with their face, body, vocal sounds, and words. ESD-6o	1. Regulates own emotions and behaviors a. Manages feelings 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			31. Express own emotions
Independently manage and express feelings effectively most of the time. ESD-6p	1. Regulates own emotions and behaviors a. Manages feelings 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly			31. Express own emotions
Use a larger vocabulary for talking about different	1. Regulates own emotions and behaviors			

feelings (“I’m frustrated with that puzzle!” “I’m excited about our trip.”). ESD-6q	a. Manages feelings 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Give reasons for their feelings that may include thoughts and beliefs as well as outside events (“I’m happy because I wanted to win and I did.”). ESD-6r	1. Regulates own emotions and behaviors a. Manages feelings 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Use problem-solving strategies when feeling angry or frustrated. ESD-6s	1. Regulates own emotions and behaviors a. Manages feelings			
<b>Goal ESD-7: Children recognize and respond appropriately to the needs and feelings of others</b>				
Communicate understanding and empathy for others’ feelings. ESD-7n	3. Participates cooperatively and constructively in group situations a. Balances needs and rights of self and others 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Show awareness that their behavior can affect the feelings of others (say, “I didn’t mean to scare you when I yelled.”). ESD-7o	3. Participates cooperatively and constructively in group situations a. Balances needs and rights of self and others 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Choose to act in ways that show respect for others’ feelings and points of view most of the time with guidance and support. ESD-7p	3. Participates cooperatively and constructively in group situations a. Balances needs and rights of self and others			

**Table A.5: Younger Preschoolers Alignment Table: HEALTH AND PHYSICAL DEVELOPMENT**

Younger Preschoolers (36-48 months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Physical Health and Growth</b>				
<b>Goal HPD-1: Children develop healthy eating habits</b>				
Try new foods. HPD-1p				
Feed themselves with utensils independently. HPD-1q				
Communicate that some foods are good for them and some are not healthy. HPD-1r	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
<b>Goal HPD-2: Children engage in and sustain various forms of physical play indoors and out.</b>				
Develop strength and stamina by spending moderate periods of time engaged in active physical play indoors and out. HPD-2k				43. Run, jump, and/or hop 44. Bend, stretch, and/or twist
Choose a variety of structured and unstructured physical activities indoors and outdoors. HPD-2l				
Participate in simple games and other structured motor				

activities that enhance physical fitness HPD-2m				
Transition from active to quiet activities with limited guidance and support. HPD-2n				33. Control impulses and behavior
<b>Goal HPD-3: Children develop healthy sleeping habits</b>				
Recognize and communicate signs of being tired. HPD-3i	9. Uses language to express thoughts and needs			
With increasing independence, start and participate in sleep routines. HPD-3j				
<b>Subdomain: Motor Development</b>				
<b>Goal HPD-4: Children develop the large muscle control and abilities needed to move through and explore their environment</b>				
Demonstrate strength and balance by managing uneven surfaces such as hills, ramps, and steps. HPD-4l				43. Run, jump, or hop 44. Bend, stretch, and/or twist
Refine movements and show generally good coordination HPD-4m				43. Run, jump, or hop 44. Bend, stretch, and/or twist
Demonstrate large muscle control by throwing balls accurately, sliding down slides, pedaling riding toys, and using assistive				



technology effectively. HPD-4n				
Move in space with good coordination HPD-4o				42. Move through a crowded environment 43. Run, jump, and/or hop
<b>Goal HPD-5: Children develop small muscle control and hand-eye coordination to manipulate objects and work with tools</b>				
Draw simple shapes and figures (square for block, circles). HPD-5j	19. Demonstrates writing skills		Section I: Name Writing	46. Hold writing tool
Engage in activities that require hand-eye coordination HPD-5K	19. Demonstrates writing skills		Section I: Name Writing	45. Hold scissors 46. Hold writing tool
Use tools that require strength, control, and dexterity of small muscles (forks, crayons, markers, safety scissors, and adapted tools). HPD-5l	19. Demonstrates writing skills		Section I: Name Writing	45. Hold scissors 46. Hold writing tool
<b>Subdomain: Self-Care</b>				
<b>Goal HPD-6: Children develop awareness of their needs and the ability to communicate their needs</b>				

Use words, signs, or sign language to ask for the things they need. HPD-6g	9. Uses language to express thoughts and needs  19. Demonstrates writing skills  b. Writes to convey ideas and information			28. Engage in conversations  32. Ask familiar adult for help
Use different strategies to calm themselves when needed HPD-6h				33. Control impulses and behavior
<b>Goal HPD-7: Children develop independence in caring for themselves and their environment</b>				
Use adaptive equipment, ask for help with positioning and movement, and/or participate in medical care routines as needed. HPD-7j				32. Ask familiar adults for help 49. Complete personal care tasks 50. Follow basic health practices
Dress and undress themselves with occasional assistance. HPD-7k				49. Complete personal care tasks
Follow basic hygiene practices with reminders. HPD-7l				50. Follow basic health practices

Gain independence in hygiene practices. HPD-7m				50. Follow basic health practices
Serve food for themselves. HPD-7n				
Help with routine care of the indoor and outdoor learning environment. HPD-7o				
Name people who help children stay healthy. HPD-7p	9. Uses language to express thoughts and needs			48. Show or explain ways that adults help to keep people safe
<b>Subdomain: Safety Awareness</b>				
<b>Goal HPD: Children develop awareness of basic safety rules and begin to follow them</b>				
Know what their bodies can do and play within their abilities to avoid injury to self or others. HPD-8i				47. Follow basic safety rules
Usually recognize and avoid objects and situations that might cause harm. HPD-8j				47. Follows basic safety rules

Usually follow established safety rules. HPD-8k				41. Explains why rules are needed  47. Follows basic safety rules
Call a trusted adult when someone gets injured or is in an unsafe situation. HPD-8l				32. Ask familiar adults for help

**Table A.6: Older Preschoolers Alignment Table: HEALTH AND PHYSICAL DEVELOPMENT**

Older preschoolers (48-60+ months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Physical Health and Growth</b>				
<b>Goal HPD-1: Children develop healthy eating habits</b>				
Try new foods. HPD-1s				
Feed themselves with utensils independently. HPD-1t	7. Demonstrates fine-motor strength and coordination			
Given a selection of familiar foods, identify which foods are nutritious and which are not. HPD-1u				
Talk about variety and amount of foods needed to be healthy (can identify what is missing from their meal). HPD-1v				
Name foods and beverages that help to build healthy bodies. HPD-1w				
<b>Goal HPD-2: Children engage in and sustain various forms of physical play indoors and out.</b>				
Develop strength and stamina by spending moderate periods of time engaged in active physical play indoors and out. HPD-2o	4. Demonstrates traveling skills 5. Demonstrates balancing skills 6. Demonstrates gross-motor manipulative skills			43. Run, jump, and/or hop 44. Bend, stretch, and/or twist
Communicate ways physical activity keeps us healthy and makes us feel good. HPD-2p	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Participate in structured and unstructured motor activities that build strength, speed,	6. Demonstrates gross-motor manipulative skills			

flexibility, and coordination (red light, green light; chase; free play). HPD-2q				
Transition independently from active to quiet activities most of the time. HPD-2r				33. Control impulses and behavior
<b>Goal HPD-3: Children develop healthy sleeping habits</b>				
Communicate ways sleep keeps us healthy and makes us feel good. HPD-3k	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Independently start and participate in sleep routines most of the time. HPD-3l				
<b>Subdomain: Motor Development</b>				
<b>Goal HPD-4: Children develop the large muscle control and abilities needed to move through and explore their environment</b>				
Coordinate movement of upper and lower body. HPD-4p	6. Demonstrates gross-motor manipulative skills			
Perform complex movements smoothly (skipping, balancing on beams, hopping from one place to another). HPD-4q	4. Demonstrates traveling skills 5. Demonstrates balancing skills			43. Run, jump and/or hop 44. Bend, stretch, and/or twist
Move quickly through the environment and stop (run fast, pedal fast). HPD-4r	4. Demonstrates traveling skills			42. Move through a crowded environment
Show awareness of own body in relation to other people and objects while moving through space. HPD-4s				42. Move through a crowded environment
<b>Goal HPD-5: Children develop small muscle control and hand-eye coordination to manipulate objects and work with tools</b>				
Draw and write smaller figures with more detail (faces with features, letters, or letter-like forms). HPD-5m	19. Demonstrates writing skills a. Writes name		Name Writing	29. Write first name 46. Hold writing tool

Engage in complex hand-eye coordination activities with a moderate degree of precision and control (fasten clothing, cut shapes, put together small pieces). HPD-5n	7. Demonstrates fine-motor strength and coordination			45. Hold scissors
Use tools that require strength and dexterity of small muscles with a moderate degree of control (spray bottle, hole puncher). HPD-5o	7. Demonstrates fine-motor strength and coordination			45. Hold scissors 46. Hold writing tool
<b>Subdomain: Self-Care</b>				
<b>Goal HPD-6: Children develop awareness of their needs and the ability to communicate their needs</b>				
Use language to ask adults or peers specifically for the kind of help needed in a particular situation. HPD-6i	9. Uses language to express thoughts and needs			28. Engage in conversations 32. Ask familiar adults for help
Consistently use strategies to calm themselves when needed. HPD-6j	1. Regulates own emotions and behaviors			33. Control impulses and behavior
<b>Goal HPD-7: Children develop independence in caring for themselves and their environment</b>				
Use adaptive equipment, ask for help with positioning and movement, and/or participate in medical care routines as needed. HPD-7q				32. Ask familiar adults for help 49. Complete personal care tasks 50. Follow basic health practices
Dress and undress themselves independently. HPD-7r				49. Complete personal care tasks
Perform tasks to maintain the indoor and outdoor learning environment independently. HPD-7s				
Describe the value of good health practices (wash hands to get rid of germs, drink	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			49. Complete personal care tasks 50. Follow basic health practices

milk to build strong bones). HPD-7t				
<b>Subdomain: Safety Awareness</b>				
<b>Goal HPD: Children develop awareness of basic safety rules and begin to follow them</b>				
Avoid potentially dangerous behaviors. HPD-8m				47. Follow basic safety rules
Consistently recognize and avoid objects, substances, and activities, within the environment that might cause harm. HPD-8n	26. Demonstrates knowledge of the physical properties of objects and materials			47. Follow basic safety rules
Independently follow established safety rules. HPD-8o				47. Follow basic safety rules
Identify people who can help them in the community (police, firefighter, nurse). HPD-8p				48. Show or explain ways that adults help to keep people safe



**Table A.7: Younger Preschoolers Alignment Table: LANGUAGE DEVELOPMENT AND COMMUNICATION**

Younger Preschoolers (36-48 months)	Teaching Strategies Gold	IGDIs- EL	PreK	
<b>Domain: Learning to Communicate</b>				
<b>DC-1: Children understand communications from others</b>				
Follow simple multistep directions with visual cues, if needed. LDC-1m	8. Listens to and understands increasingly complex language  a. Comprehends language  b. Follows directions			36. Follow multi-step directions
<b>Goal LDC-2: Children participate in conversations with peers and adults</b>				
Demonstrate an understanding that people communicate in many ways (gestures, facial expressions, multiple spoken languages, sign language, and augmentative communication). LDC-2i	10. Uses appropriate conversational and other communication skills  b. Uses social rules of language			

Initiate and carry on conversations and ask questions about things that interest them. LDC-2j	10. Uses appropriate conversational and other communication skills a. Engages in conversations			28. Engage in conversations
With prompting and support, make comments and ask questions related to the topic of discussion. LDC-2k	10. Uses appropriate conversational and other communication skills a. Engages in conversations			28. Engage in conversations
<b>Goal LDC-3: Children ask and answer questions in order to seek help, get information, or clarify something that is not understood</b>				
Answer longer questions using more detail. LDC-3d	8. Listens to and understands increasingly complex language a. Comprehends language 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			20/21. Answer questions about story detail 30. Use words that reflect variety, specificity, and complexity
Use sentences or questions to ask for things (people, actions, objects, pets) or gain information. LDC-3e	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			32. Ask familiar adults for help

<b>Goal LDC-4: Children communicate thoughts, feelings, and ideas clearly</b>				
Communicate messages with expression, tone, and inflection appropriate to the situation. LDC-4i	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary  b. Speaks clearly			
Speak clearly enough to be understood by familiar adults and children. LDC-4j	9. Uses language to express thoughts and needs  b. Speaks clearly			30. Use words that reflect variety, specificity, and complexity
<b>Goal LDC-5: Children describe familiar people, places, things, and events</b>				
Talk to themselves and others about what they are “working on,” what they are doing, routines, and events of the day. LDC-5d	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary  d. Tells about another time or place			28. Engage in conversations
Describe experiences and create or retell short narratives. LDC-5e	9. Uses language to express thoughts and needs  d. Tells about another time or place			

<b>Goal LDC-6: Children use most grammatical constructions of their home language well</b>				
Communicate in longer sentences and use more conventional grammar in their home language (plurals, tenses, prepositions). LDC-6g	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly c. Uses conventional grammar			28. Engage in conversations  30. Use words that reflect variety, specificity, and complexity
Make grammatical errors that follow language rules (say, “mouses” instead of “mice”). LDC-6h	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly c. Uses conventional grammar			
<b>Goal LDC-7: Children respond to and use a growing vocabulary</b>				
Repeat familiar songs, chants, or rhymes. LDC-7i	8. Listens to and understands increasingly complex language a. Comprehends language	Rhyming (all)	Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	

Use more than one word for the same object and use words for parts of objects (e.g., dog, beagle, Rover; arm, leg). LDC-7m	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary	Picture Naming (all)		30. Use words that reflect variety, specificity, and complexity
Make up names for things using words they know (e.g., dog doctor for veterinarian). LDC-7n	9. Uses language to express thoughts and needs	Picture Naming (all)		
Use many kinds of cues in the environment to figure out what words mean.  LDC-7o	8. Listens to and understands increasingly complex language  a. Comprehends language			
<b>Subdomain: Foundations for Reading</b>				
<b>Goal LDC-8: Children develop interest in books and motivation to read</b>				

Engage in reading behaviors independently (choose books, turn pages but not always in order, tell the story). LDC-8j	17. Demonstrates knowledge of print and its uses a. Uses and appreciates books and other texts  18. Comprehends and responds to books and other texts  a. Interacts during reading experiences, book conversations, and text reflections  b. Uses emergent reading skills			16/17. Identify rhyming words 20/21. Answer question about story detail  22. Identify story sequence  27. Demonstrate how print is read
Show an interest in books, other print, and reading related activities. LDC-8k	17. Demonstrates knowledge of print and its uses a. Uses and appreciates books and other texts			
Listen to and discuss storybooks, simple information books, and poetry. LDC-8l	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections			20/21. Answer question about story detail  22. Identify story sequence

**Goal LDC-9: Children develop book knowledge and print awareness**

Hold a book upright while turning pages one by one front to back, but not always in order. LDC-9h	<p>17. Demonstrates knowledge of print and its uses</p> <p>a. Uses and appreciates books and other texts</p> <p>b. Uses print concepts</p>		Section IV: Print and Word Awareness (#6)	27. Demonstrate how print is read
With prompting and support, recognize print occurs in different forms and is used for a variety of functions (sign naming block structure, “message” on card for family member). LDC-9i	<p>17. Demonstrates knowledge of print and its uses</p> <p>b. Uses print concepts</p>		Section IV: Print and Word Awareness (all)	
Demonstrate an understanding that print and symbols can tell people what to do (to organize classroom activities—where to store things, when they will have a turn). LDC-9j	<p>17. Demonstrates knowledge of print and its uses</p> <p>b. Uses print concepts</p>			27. Demonstrate how print is read

**Goal LDC-10: Children comprehend and use information presented in books and other print media**

Imitate the special language in storybooks and story dialogue with some accuracy and detail. LDC-10i	<p>18. Comprehends and responds to books and other texts</p> <p>a. Interacts during reading experiences, book conversations, and text reflections</p>		Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	
With prompting and support, use books and other media that communicate information to learn about the world by looking at pictures, asking questions, and talking about the information.LDC-10j	<p>18. Comprehends and responds to books and other texts</p> <p>a. Interacts during reading experiences, book conversations, and text reflections</p>			
Use their knowledge of the world (what things are, how things work) to make sense of stories and informational texts. LDC-10k	<p>18. Comprehends and responds to books and other texts</p> <p>a. Interacts during reading experiences, book conversations, and text reflections</p> <p>c. Retells stories and recounts details from informational texts</p>			



Relate personal experiences to events described in familiar books, with prompting and support. LDC-10l	18. Comprehends and responds to books and other texts  a. Interacts during reading experiences, book conversations, and text reflections			
Ask questions about a story or the information in a book. LDC-10m	18. Comprehends and responds to books and other texts  a. Interacts during reading experiences, book conversations, and text reflections			
With prompting and support, discuss storybooks by responding to questions about what is happening and predicting what will happen next. LDC-10n	18. Comprehends and responds to books and other texts  a. Interacts during reading experiences, book conversations, and text reflections  c. Retells stories and recounts details from informational texts			20/21. Answer question about story detail  22. Identify story sequence
<b>Goal LDC-11: Children develop phonological awareness</b>				

Participate in experiences with songs, poems, and books that have rhyme and wordplay, and learn words well enough to complete refrains and fill in missing words and sounds. LDC-11g	15. Demonstrates phonological awareness, phonics skills, and word recognition  a. Notices and discriminates rhyme	Rhyming (all)	Section V: Phonological Awareness- Rhyme Awareness (all)  Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	16/17. Identify rhyming words
Repeat rhythmic patterns in poems and songs using words, clapping, marching, and/or using instruments. LDC-11h	15. Demonstrates phonological awareness, phonics skills, and word recognition  a. Notices and discriminates rhyme	Rhyming (all)	Section V: Phonological Awareness- Rhyme Awareness (all)  Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	
Play with the sounds of language and begin to identify rhymes (make up silly-sounding words, repeat rhyming words). LDC-11i	15. Demonstrates phonological awareness, phonics skills, and word recognition  a. Notices and discriminates rhyme  b. Notices and discriminates alliteration	Sound Identification (all)  Rhyming (all)  Alliteration (all)	Section III: Beginning Sound Awareness (all)  Section V: Phonological Awareness- Rhyme Awareness (all)  Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	16/17. Identify rhyming words 18/19. Identify beginning sounds
<b>Goal LDC-12: Children begin to develop knowledge of the alphabet and the alphabetic principle</b>				

Demonstrate an interest in learning the alphabet. LDC-12b	16. Demonstrates knowledge of the alphabet a. Identifies and names letters		Section II: Uppercase Alphabet Recognition  Section II: Lowercase Alphabet Recognition  Section II: Letter Sounds	24. Name letters (uppercase) 25. Name letters (lowercase) 26. Make letter sounds
Recognize letters of the alphabet as a special category of print, different from pictures, shapes, and numerals LDC-12c	16. Demonstrates knowledge of the alphabet a. Identifies and names letters		Section II: Uppercase Alphabet Recognition  Section II: Lowercase Alphabet Recognition  Section II: Letter Sounds	15. Distinguish words from letters
Recognize and name some letters of the alphabet, especially those in their own name. LDC-12d	16. Demonstrates knowledge of the alphabet a. Identifies and names letters		Section I: Name Writing  Section II: Uppercase Alphabet Recognition  Section II: Lowercase Alphabet Recognition  Section IV: Print and Word Awareness (Item 8)	24. Name letters (uppercase) 25. Name letters (lowercase)
<b>Subdomain: Foundations of Writing</b>				
<b>Goal LDC-13: Children use writing and other symbols to record information and communicate for a variety of purposes</b>				

Represent thoughts and ideas through marks, scribbles, drawings, and paintings (draw a picture of something they did during the day, indicate what they want for lunch with a mark under the picture of the food they want). LDC-13c	19. Demonstrates writing skills  b. Writes to convey ideas and information		I: Name Writing	
With prompting and support, communicate their thoughts for an adult to write.  LDC-13d	19. Demonstrates writing skills  b. Writes to convey ideas and information			
Engage in writing behaviors that imitate real-life situations (e.g., make marks to take food order during pretend restaurant play). LDC-13e	19. Demonstrates writing skills  b. Writes to convey ideas and information			
<b>Goal LDC-14: Children use knowledge of letters in their attempt to write</b>				
Begin to use letters and approximations of letters to write their name. LDC-14a	19. Demonstrates writing skills  a. Writes name		I: Name Writing	29. Write first name

Distinguish letters from different kinds of drawings/graphics. LDC-14b	19. Demonstrates writing skills c. Writes using conventions		Section I: Name Writing  Section II: Uppercase Alphabet Recognition  Section II: Lowercase Alphabet Recognition	
Show they know that written words are made up of particular letters (point to the first letter of their own name, find the first letter of their own name in a list of letters). LDC-14c	19. Demonstrates writing skills c. Writes using conventions	Sound Identification (all)	I: Name Writing	15. Distinguish words from letters
<b>Goal LDC-15: Children use writing skills and conventions</b>				
Use a variety of writing tools and materials with purpose and control (pencils, chalk, markers, crayons, paintbrushes, finger paint, and computers. LDC-15f	19. Demonstrates writing skills b. Writes to convey ideas and information		I: Name Writing	46. Hold writing tool
Make marks they call “writing” that look different from drawings LDC-15g	19. Demonstrates writing skills c. Writes using conventions		I: Name Writing	

Play with writing letters and make letter-like forms. LDC-15h	19. Demonstrates writing skills  c. Writes using conventions		I: Name Writing	
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**Table A.8: Older Preschoolers Alignment Table: LANGUAGE DEVELOPMENT AND COMMUNICATION**

Older preschoolers (48-60+ months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Learning to Communicate</b>				
<b>Goal LDC-1: Children understand communications from others</b>				
Show understanding of increasingly complex sentences. LDC-1n	8. Listens to and understands increasingly complex language a. Comprehends language			
Respond to requests for information or action. LDC-1o	8. Listens to and understands increasingly complex language b. Follows direction			20/21. Answer questions about a story detail
Follow more detailed multistep directions. LDC-1p	8. Listens to and understands increasingly complex language a. Comprehends language b. Follows direction			36. Follow multi-step directions
<b>Goal LDC-2: Children participate in conversations with peers and adults</b>				
Express an understanding that people communicate in many ways (gestures, facial expressions, multiple spoken languages, sign language, and augmentative communication). LDC-2l	10. Uses appropriate conversational and other communication skills b. Uses social rules of language			
Initiate and carry on conversations that involve multiple back and forth communications or turns between the persons involved in the conversation. LDC-2m	10. Uses appropriate conversational and other communication skills a. Engages in conversations			28. Engage in conversations

Initiate and participate in conversations related to interests of their own or the persons they are communicating with. LDC-2n	10. Uses appropriate conversational and other communication skills a. Engages in conversations			28. Engage in conversations 39. Engage with peers in pretend play
Participate in a group discussion, making comments and asking questions related to the topic. LDC-2o	10. Uses appropriate conversational and other communication skills a. Engages in conversations			28. Engage in conversations
Show an appreciation for and can use humor appropriately. LDC-2p	8. Listens to and understands increasingly complex language a. Comprehends language			
<b>Goal LDC-3: Children ask and answer questions in order to seek help, get information, or clarify something that is not understood</b>				
Answer more complex questions with an explanation (“I didn’t like camping out because it rained.” “Emily is my friend because she’s nice to me.”) LDC-3f	8. Listens to and understands increasingly complex language a. Comprehends language 9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			20/21. Answer questions about story detail 30. Use words that reflect variety, specificity, and complexity
Ask specific questions to learn more about their world, understand tasks, and solve problems. LDC-3g	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			32. Ask familiar adults for help
<b>Goal LDC-4: Children communicate thoughts, feelings, and ideas clearly</b>				
Use language and nonverbal cues to communicate thoughts, beliefs, feelings, and intentions. LDC-4k	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			30. Use words that reflect variety, specificity, and complexity
Adapt their communication to meet social expectations (speak quietly in library, speak politely to older relative). LDC-4l	10. Uses appropriate conversational and other communication skills b. Uses social rules of language			



Speak clearly enough to be understood by most people. LDC-4m	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly			30. Use words that reflect variety, specificity, and complexity
States point of view, likes, and dislikes. LDC-4n	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			28. Engage in conversations
Relays messages accurately. LDC-4o	9. Uses language to express thoughts and needs			28. Engage in conversations
Expresses ideas in more than one way. LDC-4p	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			30. Use words that reflect variety, specificity, and complexity
<b>Goal LDC-5: Children describe familiar people, places, things, and events</b>				
Describe experiences and create and/or retell longer narratives. LDC-5f	9. Uses language to express thoughts and needs d. Tells about another time or place			20/21. Answer questions about story detail 30. Use words that reflect variety, specificity, and complexity
<b>Goal LDC-6: Children use most grammatical constructions of their home language well</b>				
Speak in full sentences that are grammatically correct most of the time. LDC-6i	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly c. Uses conventional grammar			28. Engage in conversation 30. Use words that reflect variety, specificity, and complexity
<b>Goal LDC-7: Children respond to and use a growing vocabulary</b>				
Repeat familiar songs, chants, or rhymes. LDC-7p	8. Listens to and understands increasingly complex language a. Comprehends language	Rhyming (all)	Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	
Use a growing vocabulary that includes many kinds of words to express ideas clearly. LDC-7q	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			30. Use words that reflect variety, specificity, and complexity

Infer the meaning of different kinds of new words from the context in which they are used (for example, hear “sandals” and “boots” used to describe two pairs of shoes, and infer that the unfamiliar shoes must be sandals because they know that the other pair of shoes are boots). LDC-7r	8. Listens to and understands increasingly complex language a. Comprehends language			
Distinguishes between real and made-up words. LDC-7s	8. Listens to and understands increasingly complex language a. Comprehends language			
<b>Subdomain: Foundations for Reading</b>				
<b>Goal LDC-8: Children develop interest in books and motivation to read</b>				
Engage in reading behaviors independently with increased focus for longer periods of time. LDC-8m	17. Demonstrates knowledge of print and its uses a. Uses and appreciates books and other texts 18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections b. Uses emergent reading skills		Print and Word Awareness -left to right directionality -moves finger along line of print - each printed word matched 1 to 1 with each spoken word in order	16/17. Identify rhyming words 20/21. Answer questions about story detail 22. Identify story sequence 27. Demonstrate how print is read
Use and share books and print in their play. LDC-8n	17. Demonstrates knowledge of print and its uses a. Uses and appreciates books and other texts 18. Comprehends and responds to books and other texts b. Uses emergent reading skills			

Listen to and discuss increasingly complex storybooks, information books, and poetry. LDC-8o	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections			20/21. Answer questions about story detail 22. Identify story sequence
<b>Goal LDC-9: Children develop book knowledge and print awareness</b>				
Hold a book upright while turning pages one by one from front to back. LDC-9k	17. Demonstrates knowledge of print and its uses a. Uses and appreciates books and other texts b. Uses print concepts		Section IV: Print and Word Awareness (#6)	27. Demonstrate how print is read
Recognize print in different forms for a variety of functions (writing a message to friend, pointing to print and saying, “Those words tell the story”, or reading familiar signs in the environment). LDC-9l	17. Demonstrates knowledge of print and its uses a. Uses and appreciates books and other texts		Section IV: Print and Word Awareness (all)	
Recognize print and symbols used to organize classroom activities and show understanding of their meaning (put toys in box with correct symbol and name; check sign-up sheet for popular activity; check schedule to learn next activity). LDC-9m	17. Demonstrates knowledge of print and its uses b. Uses print concepts		Section IV: Print and Word Awareness (#1)	
With prompting and support, run their finger under or over print as they pretend to read text. LDC-9n	17. Demonstrates knowledge of print and its uses b. Uses print concepts		Section IV: Print and Word Awareness (#7)	27. Demonstrate how print is read
Demonstrate an understanding of some basic print conventions (the concept of what a letter is, the concept of words,	17. Demonstrates knowledge of print and its uses b. Uses print concepts		Section IV: Print and Word Awareness (#1)	27. Demonstrate how print is read 23. Name nouns and verbs 24. Name letters (uppercase) 25. Name letters (lowercase)

directionality of print). LDC-9o				
Identify their name and the names of some friends when they see them in print. LDC-9p	16. Demonstrates knowledge of the alphabet a. Identifies and names letters		Section I. Name Writing	
<b>Goal LDC-10: Children comprehend and use information presented in books and other print media</b>				
Imitate the special language in story- books and story dialogue with accuracy and detail. LDC-10o	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections		Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	
Use informational texts and other media to learn about the world, and infer from illustrations, ask questions, and talk about the information. LDC-10p	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections c. Retells stories and recounts details from informational texts			
Use knowledge of the world to make sense of more challenging texts. LDC-10q	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections c. Retells stories and recounts details from informational texts			
Relate personal experiences to an increasing variety of events described in familiar and new books. LDC-10r	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections			

Ask more focused and detailed questions about a story or the information in a book. LDC-10s	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections			
Discuss storybooks by responding to questions about what is happening and predicting what will happen next. LDC-10t	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections			20/21. Answer questions about story detail 22. Identify story sequence
Discuss storybooks by responding to questions about the beginning, middle, and end of the story. LDC-10u	18. Comprehends and responds to books and other texts a. Interacts during reading experiences, book conversations, and text reflections			20/21. Answer questions about story detail 22. Identify story sequence
<b>Goal LDC-11: Children develop phonological awareness</b>				
Distinguishes between similar sounding words (e.g., tree and three). LDC-11j	15. Demonstrates phonological awareness, phonics skills, and word recognition a. Notices and discriminates rhyme	Rhyming (all)	Section V: Phonological Awareness- Rhyme Awareness (all)	18/19. Identify beginning sounds
Enjoy rhymes and wordplay, with songs, poems, and books and sometimes add their own variations. LDC-11k	15. Demonstrates phonological awareness, phonics skills, and word recognition a. Notices and discriminates rhyme	Rhyming (all)	Section V: Phonological Awareness- Rhyme Awareness (all) Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	16/17. Identify rhyming words
Repeat a variety of rhythmic patterns in poems and songs using words, clapping, marching, and/or instruments to repeat the rhythm or beat syllables. LDC-11l	15. Demonstrates phonological awareness, phonics skills, and word recognition a. Notices and discriminates rhyme	Rhyming (all)	Section V: Phonological Awareness- Rhyme Awareness (all) Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	

Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. LDC-11m	15. Demonstrates phonological awareness, phonics skills, and word recognition a. Notices and discriminates rhyme b. Notices and discriminates alliteration	Rhyming (all) Alliteration (all)	Section III: Beginning Sound Awareness (all) Section V: Phonological Awareness- Rhyme Awareness (all) Section V: Phonological Awareness- Nursery Rhyme Awareness (all)	16/17. Identify rhyming words 18/19. Identify beginning sounds
Associate sounds with specific words, such as awareness that different words begin with the same sound. LDC-11n	15. Demonstrates phonological awareness, phonics skills, and word recognition b. Notices and discriminates alliteration	Sound Identification (all) Alliteration (all)	Section III: Beginning Sound Awareness (all)	
<b>Goal LDC-12: Children begin to develop knowledge of the alphabet and the alphabetic principle</b>				
Demonstrate an interest in learning the alphabet. LDC-12e	16. Demonstrates knowledge of the alphabet a. Identifies and names letters	Sound Identification (all)	Section II: Uppercase Alphabet Recognition Section II: Lowercase Alphabet Recognition Section II: Letter Sounds	24. Name letters (uppercase) 25. Name letters (lowercase) 26. Make letter sounds
Show they know that letters function to represent sounds in spoken words. LDC-12f	16. Demonstrates knowledge of the alphabet b. Identifies letter-sound correspondences		Section II: Letter Sounds	26. Make letter sounds
Recognize and name many letters of the alphabet, especially those in their own name and in the names of others who are important to them. LDC-12g	16. Demonstrates knowledge of the alphabet a. Identifies and names letters		Section I: Name Writing Section II: Uppercase Alphabet Recognition Section II: Lowercase Alphabet Recognition Section IV: Print and Word Awareness (Item 8)	24. Name letters (uppercase) 25. Name letters (lowercase)
Make some sound-to-letter matches, using letter name knowledge (notice the letter B with picture of ball and say, "Ball"; say, "A-a-apple."). LDC-12h	16. Demonstrates knowledge of the alphabet b. Identifies letter-sound correspondences	Sound Identification (all)	Section II: Uppercase Alphabet Recognition Section II: Lowercase Alphabet Recognition Section II: Letter Sounds Section III: Beginning Sound Awareness (all)	26. Make letter sounds
Associate sounds with the letters at the beginning of some words, such as	15. Demonstrates phonological awareness,	Alliteration (all)	Section III: Beginning Sound Awareness (all)	26. Make letter sounds 18/19. Identify beginning sounds

awareness that two words begin with the same letter and the same sound. LDC-12i	phonics skills, and word recognition b. Notices and discriminates alliteration			
<b>Subdomain: Foundations of Writing</b>				
<b>Goal LDC-13: Children use writing and other symbols to record information and communicate for a variety of purposes</b>				
Represent thoughts and ideas in drawings and by writing letters or letter-like forms. LDC-13f	19. Demonstrates writing skills b. Writes to convey ideas and information		Section I: Name Writing	
Incorporate representations of signs, logos or others commonly used symbols into their drawing or writing to communicate the messages that they convey. LCD-13g	19. Demonstrates writing skills b. Writes to convey ideas and information		Section I: Name Writing	
Communicate their thoughts for an adult to write. LDC-13h	19. Demonstrates writing skills b. Writes to convey ideas and information			
Independently engage in writing behaviors for various purposes (e.g., write symbols or letters for names, use materials at writing center, write lists with symbols/letters in pretend play, write messages that include letters or symbols). LDC-13i	19. Demonstrates writing skills b. Writes to convey ideas and information		Section I: Name Writing	
Engage in discussions regarding different purposes (enjoyment, information) and forms of writing (narrative, informational and opinion). LCD-13j	8. Listens to and understands increasingly complex language a. Comprehends language			
<b>Goal LDC-14: Children use knowledge of letters in their attempt to write</b>				

Use known letters and approximations of letters to write their own name and some familiar words. LDC-14d	19. Demonstrates writing skills a. Writes name b. Writes to convey ideas and information		Section I: Name Writing	29. Write first name
Try to connect the sounds in a spoken word with letters in the written word (write “M” and say, “This is Mommy.”). LDC-14e	15. Demonstrates phonological awareness, phonics skills, and word recognition d. Applies phonics concepts and knowledge of word structure to decode text		Section I: Name Writing Section III: Beginning Sound Awareness (all)	
<b>Goal LDC-15: Children use writing skills and conventions</b>				
Use a variety of writing tools and materials with increasing precision. LDC-15i	19. Demonstrates writing skills b. Writes to convey ideas and information		Section I: Name Writing	46. Hold writing tool
Imitate adult writing conventions that they have observed (write groups of letter-like forms separated by spaces, try to write on a line, press Enter key on computer after typing a series of “words”). LDC-15j	19. Demonstrates writing skills b. Writes to convey ideas and information		Section I: Name Writing	
Use some conventional letters in their writing. LDC-15k	16. Demonstrates knowledge of the alphabet a. Identifies and names letters b. Identifies letter-sound correspondences		Section I: Name Writing	



**Table A.9: Younger Preschoolers Alignment Table: MATHEMATICAL THINKING AND EXPRESSION**

Younger Preschoolers (36-48 months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Foundations for Number Sense</b>				
<b>Goal MTE-1: Children demonstrate a beginning understanding of numbers and quantity during play and other activities</b>				
Visually compare two groups of objects that are obviously equal or unequal in quantity and communicate that they are the same or different, and, if appropriate, which one has more and/or which one has less. (If child is offered two plates of crackers can select the preferred amount and can explain that he wanted more (or less). MTE-1k				6. Identify set that has “the same number as” 7. Identify set that has “less than”
Rote count to 10 with increasing accuracy. MTE-1l				1. Count to 20
Count up to 5 objects arranged in a line using one-to-one correspondence with increasing accuracy and answer the question, “How many are there?” MTE-1m				2. Tell how many

Recognize numerals up to 5 during play and daily activities. MTE-1n				3. Name numerals 8. Pair numerals with sets
Match numerals 1-5 to sets of objects, with guidance and support. MTE-1o				8. Pair numerals with sets
Write numerals or number-like forms up to 5 during play and daily activities. MTE-1p				
<b>Goal MTE-2: Children demonstrate a beginning understanding of numbers and operations during play and other activities</b>				
Use observation and counting (not always correctly) to find out how many things are needed during play and other daily activities (figure out how many spoons are needed for snack, find enough dolls so each person has one when playing in the dramatic play area). MTE-2b				9. Determine amount needed to complete a set
Show they understand that putting objects together in a set will make a bigger set, and removing objects from a set will make a smaller set. MTE-2c				4. Solve simple addition problem 9. Determine amount needed to complete a set
<b>Subdomain: Foundations for Algebraic Thinking</b>				

<b>Goal MTE-3: Children demonstrate a beginning understanding of algebraic thinking by sorting, describing, extending, and creating simple patterns during play and other activities</b>				
Sort familiar objects into categories (cars with cars, plates separated from cups; rectangle blocks on one shelf and square blocks on another). MTE-3e				10. Sort by one attribute
Identify familiar objects as the same or different. MTE-3f		Which One Doesn't Belong (all)		10. Sort by one attribute 11. Compare height 12. Order objects by size 13. Match shapes 16/17. Identify rhyming words 18/19. Identify beginning sound
Recognize simple repeating patterns (AB type patterns) and attempt to repeat or extend them during play (repeat a movement pattern during a song, extend a line of blocks in alternating colors). MTE-3g				
<b>Subdomain: Foundations for Geometry and Spatial Understanding</b>				
<b>Goal MTE-4: Children begin to identify, describe, classify, and understand shape, size, direction, and movement during play and other activities</b>				
Respond to and begin to use words describing positions (in, on, over, under, etc.). MTE-4i	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			14. Use prepositions

Name or match a few 2- and 3-dimensional shapes (circle, sphere, square, triangle, cone) and describe their differences. MTE-4j	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			5. Name shapes 13. Match shapes
Stack or line up blocks that are the same shape. MTE-4k				13. Match shapes
<b>Subdomain: Foundations of Measurement and Data Analysis</b>				
<b>Goal MTE-5: Children demonstrate a beginning understanding of measurement (the idea of repeating the use of an object to measure) and a beginning understanding of data analysis through comparing and interpreting data during play and other activities.</b>				
Use descriptive language for size, length, or weight (short, tall, long, heavy, big). MTE-5f	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			11. Compare height 12. Order objects by size
Compare the size or weight of two objects and identify which one is the longer/taller/heavier than the other (“That rock is heavier than this one. I can lift it. The snake is longer than the worm.”) MTE-5g	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			11. Compare height 12. Order objects by size
Use simple measurement tools with guidance and support to informally measure objects (a ruler, measuring cup, scale). MTE-5h				

Describe the weather as hot or cold. (Engage in explorations with temperature.) MTE-5i				
Recognize routines with time passing throughout the day (identifying circle time, snack time, outside play, etc.) MTE-5j				
<b>Subdomain: Mathematical Thinking and Reasoning</b>				
<b>Goal MTE-6: Children use mathematical thinking to solve problems in their everyday environment</b>				
Seek answers to questions by using mathematical thinking (i.e. reasoning and problem solving) during play and daily activities (determine who is taller by standing next to classmate; find two smaller blocks to replace larger block). MTE-6a	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary	Which One Doesn't Belong (all)		

<p>Use drawing and concrete materials to represent and communicate mathematical ideas (draw many circles to show “lots of people,” put craft sticks in a pile to show the number of children who want crackers for snack). MTE-6b</p>	<p>10. Uses appropriate conversational and other communication skills</p> <p>19. Demonstrates writing skills</p>			
<p>Develop and consistently use intentional strategies when working with knobbed puzzles and similar materials. MTE-6c</p>				

**Table A.10: Older Preschoolers Alignment Table: MATHEMATICAL THINKING AND EXPRESSION**

Older preschoolers (48-60+ months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Foundations for Number Sense</b>				
<b>Goal MTE-1: Children demonstrate a beginning understanding of numbers and quantity during play and other activities</b>				
Compare the amount of items in small sets of objects (up to 5 objects) by matching or counting and use language such as “more than” and “less than” to describe the sets of objects. MTE-1q	20. Uses number concepts and operations			6. Identify set that has “the same number as” 7. Identify set that is “less than”
Show an understanding of magnitude by recognizing larger sets when compared to smaller sets and describe how they are different. MTE-1r	22. Compares and measures			7. Identify set that is “less than”
Rote count to 20 with increasing accuracy. MTE-1s	20. Uses number concepts and operations a. Counts			1. Count to 20
Count up to 10 objects in a variety of ways (e.g., left to right, right to left, in stacks, etc.) MTE-1t	20. Uses number concepts and operations a. Counts			2. Tell how many
Count up to 10 objects arranged in a line using one-to-one correspondence with increasing accuracy, and answer the question “How many are there?” MTE-1u	20. Uses number concepts and operations a. Counts			2. Tell how many
Recognize numerals up to 10 and attempt to write them or number-like forms during play and daily activities. MTE-1v	20. Uses number concepts and operations a. Connect numerals with their quantity			3. Name numerals 8. Pair numerals with sets
Match numerals 1–10 to sets of objects, with guidance and support. MTE-1w	20. Uses number concepts and operations			8. Pair numerals with sets

	a. Connect numerals with their quantity			
Recognize that objects can be counted as part of different groups (forks can be counted alone, or as part of a set of utensils) MTE-1x	13. Uses classification skills			10. Sort by one attribute
Given a number 0–5, count out that many objects. MTE-1y	20. Uses number concepts and operations a. Counts			9. Determine the amount needed to complete a set
State the number of objects in a small collection (1–5) without counting (when a friend holds up two fingers, look at her hand and say, “Two fingers” without counting). MTE-1z				
Tell what number comes next or what number came before another number when counting 1–5. MTE-1aa				
Show understanding of first, next, and last during play and daily activities (answer questions about who is first and last to slide down the slide; say, “The engine is first, and the caboose is last” when making a train). MTE-1ab				
<b>Goal MTE-2: Children demonstrate a beginning understanding of numbers and operations during play and other activities</b>				
Use observation and counting with increasing accuracy to answer questions such as “How many do we need?” and “How many more do we need?” during play and other daily activities (count new children to see how many more plates are needed for snack; return extra drinks to cooler at picnic to arrive at the correct number). MTE-2d	20. Uses number concepts and operations			9. Determine amount needed to complete a set



Show different ways a set of up to five objects can be decomposed (broken apart) or composed (put together) (e.g., 5 objects can be broken into 2 and 3 objects and 2 and 3 can be combined to make 5 objects). MTE-2e	20. Uses number concepts and operations e. Applies properties of mathematical operations and relationships			4. Solve simple addition problems 9. Determine amount needed to complete a set
<b>Subdomain: Foundations for Algebraic Thinking</b>				
<b>Goal MTE-3: Children demonstrate a beginning understanding of algebraic thinking by sorting, describing, extending, and creating simple patterns during play and other activities</b>				
Sort a group of objects (0–10) using one attribute (color, size, shape, quantity) with increasing accuracy (sort blocks by shape and place like-shaped blocks on the shelf; sort beads by color or another attribute). MTE-3h	13. Uses classification skills 22. Compares and measures			10. Sort by one attribute
Describe, duplicate, and extend simple repeating patterns (two-part patterns) using concrete objects (look at a pattern of beads and tell what bead comes next in the pattern). MTE-3i	23. Demonstrate knowledge of patterns			
Show beginning abilities to create simple repeating patterns. MTE-3	23. Demonstrate knowledge of patterns			
<b>Subdomain: Foundations for Geometry and Spatial Understanding</b>				
<b>Goal MTE-4: Children begin to identify, describe, classify, and understand shape, size, direction, and movement during play and other activities</b>				
Consistently use a variety of words for positions in space (in, on, over, under, etc.), and follow directions using these words. MTE-4l	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 21. Explores and describes spatial relationships and space			
Use 2- and 3-dimensional shapes to represent real world objects (say, “We are building a castle and we need a round block for the tunnel.” “I glued a circle and a square on my picture to make a house.”). MTE-4m				

Identify basic 2- and 3-dimensional shapes (square, circle, triangle) in the environment. MTE-4n				5. Name shapes
Name basic 2 and 3-dimensional shapes (square, prism, circle, sphere, triangle, pyramid, hexagon), and describe their characteristics using informal descriptive and geometric attributes (“That’s a triangle; it’s pointy.” “It’s a circle because it’s round.”). MTE-4o	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
<b>Subdomain: Foundations of Measurement and Data Analysis</b>				
<b>Goal MTE-5: Children demonstrate a beginning understanding of measurement (the idea of repeating the use of an object to measure) and a beginning understanding of data analysis through comparing and interpreting data during play and other activities.</b>				
Use descriptive language for size, length, or weight (short, tall, long, heavy, and big). MTE-5k	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 13. Uses classification skills			11. Compare height 12. Order objects by size
Directly compare more than two objects by size, length, or weight (“That rock is heavier than these others; I can’t lift it.” Look at three strings that are different lengths and select the longest string). MTE-5l	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 13. Uses classification skills 22. Compares and measures			11. Compare height 12. Order objects by size
Put a few objects in order by size, length, or weight (arrange a group of 3 blocks in order from the shortest to the longest). MTE-5m	13. Uses classification skills 22. Compares and measures			12. Order objects by size
Use simple measurement tools with guidance and support to informally measure objects (a ruler, measuring cup, scale). MTE-5n	22. Compares and measures a. Measures objects			
Describe the weather as hot or cold. (Continue to engage in explorations with temperature.) MTE-5o	27. Demonstrates knowledge of Earth’s environment			
Recognize routines with time passing throughout the day (identifying circle time, snack time, outside play, etc.) MTE-5p				
<b>Subdomain: Mathematical Thinking and Reasoning</b>				

Goal MTE-6: Children use mathematical thinking to solve problems in their everyday environment				
Seek answers to questions during play and daily activities using an increasing variety of mathematical strategies (figure out how to balance a block structure; to build a bridge; to create a pattern with Legos®). MTE-6d	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 20. Uses number concepts and operations e. Applies properties of mathematical operations and relationships	Which One Doesn't Belong (all)		
Use drawing, writing, and concrete materials to represent and communicate a variety of mathematical ideas (draw shapes to represent pattern; stack different-colored blocks to represent classmates' answers to a survey question). MTE-6e	10. Uses appropriate conversational and other communication skills 19. Demonstrates writing skills 20. Uses number concepts and operations e. Applies properties of mathematical operations and relationships			
Begin to explain how a mathematical problem was solved ("I saw that there was always a blue flower after a red flower so I knew to put a blue one next." "I counted four friends who didn't have crackers, so I got four more."). MTE-6f	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 20. Uses number concepts and operations e. Applies properties of mathematical operations and relationships			
Identify and describe strategies used to complete increasingly difficult puzzles (e.g., when completing a floor puzzle, working on the edges first). MTE-6g	2. Explores and describes spatial relationships and shapes a. Understands spatial relationships			

**Table A.11: Younger Preschoolers Alignment Table: COGNITIVE DEVELOPMENT**

Younger Preschoolers (36-48 months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Construction of Knowledge: Thinking and Reasoning</b>				
<b>Goal CD-1: Children use their senses to construct knowledge about the world around them</b>				
Explore objects, tools, and, materials systematically to learn about their properties (weigh an object, observe something from the top of the object to the bottom). CD-1h		Which One Doesn't Belong? (all)		
Express knowledge gathered through their senses using play, various art forms, language, and other forms of representation. (Show an understanding that one block is heavier than another, that play dough can be modeled into longer and shorter logs, that blocks can be used to represent a telephone). CD-1i	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Enjoys fantasy and make-believe and can sometimes distinguish appearance from reality (the person behind				

the mask remains the same person). CD-1j				
Group familiar objects that go together (shoe and sock, brush and paint, hammer and nail). CD-1k		Which One Doesn't Belong? (all)		10. Sort by one attribute 13. Match shapes 16/17. Identify rhyming words 18/19. Identify beginning sound
<b>Goal CD-2: Children recall information and use it for addressing new situations and problems</b>				
Recognize whether a picture or object is the same as or different from something they have seen before. CD-2o		Which One Doesn't Belong? (all)		
Apply what they know about everyday experiences to new situations (look for the seatbelt on the bus). CD-2p				41. Explain why rules are needed
Describe or act out a memory of a situation or action, with adult support. CD-2q	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			28. Engage in conversations 30. Use words that reflect variety, specificity, and complexity
Make predictions about what will happen using what they know. CD-2r	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			
Introduce ideas or actions in play based on previous	9. Uses language to express thoughts and needs			28. Engage in conversations 30. Use words that reflect

knowledge or experience. CD-2s	a. Uses an expanding expressive vocabulary  d. Tells about another time or place			variety, specificity, and complexity
Ask questions about why things happen and try to understand cause and effect. CD-2t	8. Listens to and understands increasingly complex language  10. Uses appropriate conversational and other communication skills  a. Engages in conversations			38. Express a desire to learn
<b>Goal CD-3: Children demonstrate the ability to think about their own thinking, reasoning, taking perspectives, and making decisions</b>				
Uses language to identify pretend or fantasy situations (say, “Let’s pretend we’re going on a trip.” “That’s a pretend story.”). CD-3f	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			39. Engage with peers in pretend play
Uses words like “think” and “know” to talk about thoughts and beliefs. CD-3g	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			
Recognize that beliefs and desires can determine what people do (e.g., a person will look for a missing object based on where they think it is rather than where it actually is). CD-3h				

Remember and describe, at the end of the day what they had done while at school. CD-3i	9. Uses language to express thoughts and needs  d. Tells about another time or place			
<b>Subdomain: Creativity Expression</b>				
<b>Goal CD-4: Children demonstrate appreciation for different forms of artistic expression</b>				
Express pleasure in different forms of art (express preferences, choose to look at book of photographs or listen to music again). CD-4g				
Participate in, describe, and ask questions about art, music, dance, drama, or other aesthetic experiences (describe dancers spinning round and round; talk about colors in a painting).CD-4h	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary  10. Uses appropriate conversational and other communication skills			
<b>Goal CD-5: Children demonstrate self-expression and creativity in a variety of forms and contexts, including play, visual arts, music, theater, and dance</b>				
Choose to participate and express themselves through a variety of creative experiences, such as art, music, movement, dance, and dramatic play. CD-5m				

Show creativity and imagination when using materials and assuming roles during pretend play. CD-5n				
Explore the properties of art materials and use them with purpose to draw, paint, sculpt, and create in other ways. CD-5o			Section I: Name Writing	
Show awareness of different musical instruments, rhythms, and tonal patterns as they make music or participate in music activities. CD-5p				
Show awareness of various patterns of beat, rhythm, and movement through music and dance activities. CD-5q				
<b>Subdomain: Social Connections</b>				
<b>Goal CD-6: Children demonstrate knowledge of relationships and roles within their own families, homes, classrooms, and communities</b>				
Talk about close family members, name their relationships to each other, and describe family routines (“Marika is my sister.” “My grandma takes care of me at night.”). CD-6h	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary  d. Tells about another time or place			
Adopt roles of family and community members during				



play, given support and realistic props. CD-6i				
Identify and talk about the roles of some community helpers (police, fire fighters, garbage collectors). CD-6j	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			48. Show or explain ways that adults help to keep people safe
<b>Goal CD-7: Children recognize that they are members of different groups</b>				
Identify self as a part of a specific family, preschool class, or other familiar group (e.g., point to picture and say, "That's my family," or "I'm in Ms. Emily's class."). CD-7d				
<b>Goal CD-8: Children identify and demonstrate acceptance of similarities and differences between themselves and others</b>				
Show acceptance of people who are different from themselves as well as people who are similar. CD-8d				
Given support and guidance, explore different cultural practices during play and planned activities. CD-8e				
<b>Goal CD-9: Children explore concepts connected with their daily experiences in their community</b>				
Describe characteristics of the places where they live and play (say, "My house is big and there are trees in my yard." "The playground has	9. Uses language to express thoughts and needs			

swings and a sandbox.”). CD-9b	a. Uses an expanding expressive vocabulary  d. Tells about another time or place			
Notice changes that happen over time (seasons, self or others growing bigger). CD-9c				
Notice and talk about weather conditions. CD-9d	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			
With prompting and support, participate as a member of a democratic classroom community (vote for name of class pet, wait turn to paint when easels are full). CD-9e	8. Listens to and understands increasingly complex language  b. Follows directions			33. Control impulses and behavior 34. Wait to take turns 40. Share materials with peers
<b>Subdomain: Scientific Exploration and Knowledge</b>				
<b>Goal CD-10: Children observe and describe characteristics of living things and the physical world</b>				
Participate in the care of living things, with guidance and support (water plants, help to feed classroom pet). CD-10e				
Notice and react to the natural world and the				

outdoor environment. CD-10f				
Notice and describe characteristics of plants and animals, such as appearance, similarities, differences, behavior, and habitat. CD-10g	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Notice and describe current weather conditions. CD-10h	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Notice and describe properties of materials and changes in substances (water freezes into ice, pudding thickens, clay hardens). CD-10i	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Participate in activities that help to care for the environment, with guidance and support (picks up trash, recycle paper). CD-10j				
<b>Goal CD-11: Children explore the world by observing, manipulating objects, asking questions, making predictions, and developing generalizations</b>				
Represent what they learn during scientific exploration through drawing, modeling, building, movement, or other methods. CD-11i	19. Demonstrates writing skills b. Writes to convey ideas and information			

Observe objects, materials, and everyday events, and describe what they notice (temperature, texture, size, weight, color, etc.). CD-11j	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			
Ask questions to find out more about the natural world. CD-11k	10. Uses appropriate conversational and other communication skills  a. Engages in conversations			28. Engage in conversations 32. Ask familiar adults for help 38. Express a desire to learn
With guidance and support, use simple tools to investigate objects and materials (magnifying glass, sifter, ramps for rolling balls and cars). CD-11l				
Describe and predict changes that take place when mixing and manipulating materials. CD-11m	9. Uses language to express thoughts and needs  a. Uses an expanding expressive vocabulary			

**Table A.12: Older Preschoolers Alignment Table: COGNITIVE DEVELOPMENT**

Older preschoolers (48-60+ months)	Teaching Strategies Gold	IGDIs- EL	PALS-PreK	KRA
<b>Subdomain: Construction of Knowledge: Thinking and Reasoning</b>				
<b>Goal CD-1: Children use their senses to construct knowledge about the world around them</b>				
Explore objects, tools, and materials systematically to learn about their properties (weigh an object, observe something from the top of the object to the bottom). CD-1l	24. Uses scientific inquiry skills 26. Demonstrates knowledge of the physical properties of objects and materials	Which One Doesn't Belong? (all)		
Express knowledge gathered through their senses using play, various art forms, language, and other forms of representation (show an understanding that one block is heavier than another, that play dough can be modeled into longer and shorter logs, that blocks can be used to represent a telephone). CD-1m	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 12. Remembers and connects experiences			
Distinguish appearance from reality (the person behind a mask is still the same person; recognize that a fantasy story could not be real). CD-1n	11. Demonstrates positive approaches to learning e. Shows flexibility and inventiveness in thinking			
Organize and use information through matching, grouping, and sequencing. CD-1o	13. Uses classification skills	Which One Doesn't Belong? (all)		10. Sort by one attribute 11. Compare height 12. Order objects by size 13. Match shapes
<b>Goal CD-2: Children recall information and use it for addressing new situations and problems</b>				
Demonstrate their ability to apply what they know about	12. Remembers and connects experiences			41. Explain why rules are needed

everyday experiences. CD-2u				
Describe past events in an organized way, including details or personal reactions. CD-2v	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			28. Engage in conversations 30. Use words that reflect variety, specificity, and complexity
Improve their ability to make predictions and explain why things happen using what they know. CD-2w	12. Remembers and connects experiences			
Introduce more elaborate or detailed ideas or actions into play based on previous knowledge or experience. CD-2x	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			28. Engage in conversation 30. Uses words that reflect variety, specificity, and complexity
Try to reach logical conclusions (including conclusions regarding cause and effect) about familiar situations and materials, based on information gathered with their senses. CD-2y	12. Remembers and connects experiences			
Speculate and imagine what might happen next. CD-2z	12. Remembers and connects experiences			38. Express a desire to learn
<b>Goal CD-3: Children demonstrate the ability to think about their own thinking, reasoning, taking perspectives, and making decisions</b>				
Uses language to identify pretend or fantasy situations (say, "Let's pretend we're going on a trip." "That's a pretend story."). CD-3j	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			39. Engage with peers in pretend play
Express understanding that others may have different thoughts, beliefs, or feelings than their own ("I like ketchup and you don't."). CD-3k	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			
Use language to describe their thinking processes with adult support. CD-3l	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			

Work on a project over several days, solving problems and making their work more elaborate. CD-3m	11. Demonstrates positive approaches to learning b. Persists c. Solves problems			
<b>Subdomain: Creativity Expression</b>				
<b>Goal CD-4: Children demonstrate appreciation for different forms of artistic expression</b>				
Express pleasure in different forms of art (express preferences, choose to look at book of photographs or listen to music again). CD-4i	33. Explores the visual arts 34. Explores musical concepts and expression 35. Explores dance and movement concepts 36. Explores drama through actions and language			
Participate in, describe, and ask questions about art, music, dance, drama, or other aesthetic experiences (describe dancers spinning round and round; talk about colors in a painting). CD-4j	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 10. Uses appropriate conversational and other communication skills 33. Explores the visual arts 34. Explores musical concepts and expression 35. Explores dance and movement concepts 36. Explores drama through actions and language			
Use art-specific vocabulary to express ideas and thoughts about artistic creations more clearly (say, “We need a stage for our puppet show”). CD-4k	33. Explores the visual arts 34. Explores musical concepts and expression 35. Explores dance and movement concepts 36. Explores drama through actions and language			
Recognize the value of artistic expression and the role the arts play in human’s lives. CD-4l				
<b>Goal CD-5: Children demonstrate self-expression and creativity in a variety of forms and contexts, including play, visual arts, music, theater, and dance</b>				

Choose to participate and express themselves through a variety of creative experiences, such as art, music, movement, dance, and dramatic play. CD-5r	33. Explores the visual arts 34. Explores musical concepts and expression 35. Explores dance and movement concepts 36. Explores drama through actions and language			
Plan and act out scenes based on books, stories, everyday life, and imagination. CD-5s	36. Explores drama through actions and language			
Plan and complete artistic creations such as drawings, paintings, collages, and sculptures. CD-5t	33. Explores the visual arts		Section I: Name Writing	
Recall and imitate different musical tones, rhythms, rhymes, and songs as they make music or participate in musical activities (clap previous beat to a new song). CD-5u	34. Explores musical concepts and expression			
Recall and imitate patterns of beat, rhythm, and movement as they create dances or participate in movement and dance activities. CD-5v	34. Explores musical concepts and expression 35. Explores dance and movement concepts			
<b>Subdomain: Social Connections</b>				
<b>Goal CD-6: Children demonstrate knowledge of relationships and roles within their own families, homes, classrooms, and communities</b>				
Talk about a wide circle of family members and other people important to the family, their relationships to each other, and shared experiences. CD-6k	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary d. Tells about another time or place			
Adopt roles of a wide variety of family and community members during dramatic play, using props, language,	14. Uses symbols and images to represent something not present b. Engages in sociodramatic play			



and actions to add detail to their play. CD-6l				
Recognize and identify the roles of a wide variety of community helpers (police, fire fighters, garbage collectors, doctors, dentists). CD-6m	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary			48. Show or explain ways that adults help to keep people safe
<b>Goal CD-7: Children recognize that they are members of different groups</b>				
Identify and express self as a part of several groups (e.g., family, preschool class, faith community). CD-7e	29. Demonstrates knowledge about self			
<b>Goal CD-8: Children identify and demonstrate acceptance of similarities and differences between themselves and others</b>				
Show acceptance of people who are different from themselves as well as people who are similar. CD-8f	3. Participates cooperatively and constructively in group situations 30. Shows basic understanding of people and how they live			
Talk about how other children have different family members and family structures than their own (“I live with my Grandma and Shanika lives with her Mom and Dad.” “David’s dad works but my Daddy stays home and takes care of me.”). CD-8g	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 30. Shows basic understanding of people and how they live			
Show acceptance of different cultures through exploration of varying customs and traditions, past and present (how people dress, how people speak, food, music, art, etc.). CD-8h	30. Shows basic understanding of people and how they live			
<b>Goal CD-9: Children explore concepts connected with their daily experiences in their community</b>				

Describe characteristics of the places where they live and play (say, “My house is big and there are trees in my yard.” “The playground has swings and a sandbox.”). CD-9f	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary d. Tells about another time or place 32. Demonstrates simple geographic knowledge			
Observe and talk about changes in themselves and their families over time. CD-9g	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary d. Tells about another time or place 31. Explores change related to familiar people or places			
Observe and talk about how people adapt to seasons and weather conditions (put on sunscreen on sunny days, wear rain gear). CD-9h	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary d. Tells about another time or place 30. Shows basic understanding of people and how they live			
Show awareness of the basic needs all families have (food, shelter, clothing) and how needs are met (work, help each other). CD-9i	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 30. Shows basic understanding of people and how they live			
Demonstrate positive social behaviors and take personal responsibility as a member of a group (share, take turns, follow rules, take responsibility for classroom jobs). CD-9j	8. Listens to and understands increasingly complex language b. Follows directions 3. Participates cooperatively and constructively in group situations			33. Control impulses and behavior 34. Wait to take turns 40. Share materials with peers
<b>Subdomain: Scientific Exploration and Knowledge</b>				

Goal CD-10: Children observe and describe characteristics of living things and the physical world				
Collect items from nature (rocks, leaves, and insects) and classify them using physical characteristics (color, size, shape, texture). CD-10k	13. Use classification skills 26. Demonstrates knowledge of the physical properties of objects and materials			
Notice and react to the natural world and the outdoor environment. CD-10l	27. Demonstrates knowledge of the Earth's environment			
Describe some things plants and animals need to live and grow (sunlight, water, food). CD-10m	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 25. Demonstrates knowledge of the characteristics of living things			
Take responsibility for the care of living things (independently feed classroom pet as daily chore, water plant when dry, weed vegetable garden). CD-10n	25. Demonstrates knowledge of the characteristics of living things			
Notice and describe weather conditions, position of the sun and moon at different times, and seasonal changes. CD-10o	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 27. Demonstrates knowledge of the Earth's environment			
Notice, describe, and attempt to explain properties of materials and changes in substances (metal railing is hot because the sun shines on it; ice melts when it gets warmer). CD-10p	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary 26. Demonstrates knowledge of the physical properties of objects and materials			
Participate in activities that help to care for the environment and explain why they are important with	27. Demonstrates knowledge of the Earth's environment			

guidance and support (gathering cans for recycling, planting trees). CD-10q				
<b>Goal CD-11: Children explore the world by observing, manipulating objects, asking questions, making predictions, and developing generalizations</b>				
Represent what they learn during scientific exploration through drawing, modeling, building, movement, or other methods. CD-11n	19. Demonstrates writing skills b. Writes to convey ideas and information			
Ask questions and identify ways to find answers (look in a book, use the computer, try something, and watch what happens). CD-11o	10. Uses appropriate conversational and other communication skills a. Engages in conversations 24. Uses scientific inquiry skills			28. Engage in conversations 32. Ask familiar adults for help 38. Express a desire to learn
Compare objects, materials, and phenomena by observing and describing their physical characteristics. CD-11p	13. Uses classification skills 22. Compares and Measures 26. Demonstrates knowledge of the physical properties of objects and materials			10. Sort by one attribute 11. Compare height 12. Order objects by size 13. Match shapes
Use an increasing variety of tools to investigate the world around them (measuring tools, balance, prism, droppers). CD-11q	28. Use tools and other technology to perform tasks			
Make and check predictions through observations and experimentation, with adult support and guidance. CD-11r	24. Uses scientific inquiry skills			
Manipulate the environment to produce desired effects and invent solutions to problems (attach a piece of string to the light switch so they can independently turn off the lights). CD-11s	11. Demonstrates positive approaches to learning d. Shows curiosity and motivations e. Shows flexibility and inventiveness in thinking			37. Solves problems
Engage in the scientific process by observing, making predictions, recording predictions	24. Uses scientific inquiry skills			

(through photographs, drawings or dictations), developing plans for testing hypotheses, trying out ideas and communicating outcomes. CD-11t				
Analyze the result of an attempted solution and use new information to solve a problem (e.g., after observing a paper boat sinking in the water, making a new boat out of a different material to see if it would float). CD-11u	11. Demonstrates positive approaches to learning c. Solves problems			37. Solves problems

**Table A.13: South Carolina Kindergarten Standards Table**

South Carolina Kindergarten Standard		KRA
Inquiry-Based Literacy Standards (I)		
Standard 1: Formulate relevant, self-generated questions based on interests and/or needs that can be investigated.		
1.1 Engage in daily opportunities for play and exploration to foster a sense of curiosity, develop the disposition of inquisitiveness and begin to verbally articulate “I wonders” about ideas of interest.	38. Express a desire to learn 39. Engage with peers in pretend play	
Standard 2: Transact with texts to formulate questions, propose explanations, and consider alternative views and multiple perspectives.		
2.1 With guidance and support, engage in daily explorations of texts to make connections to personal experiences, other texts, or the environment.	20/21. Answer question about story detail 22. Identify story sequence	
Standard 3: Construct knowledge, applying disciplinary concepts and tools, to build deeper understanding of the world through exploration, collaboration, and analysis.		
3.1 With guidance and support, develop a plan of action for collecting information from multiple sources through play, sensory observation, texts, websites, and conversations with adults/peers.	32. Ask familiar adults for help 38. Express a desire to learn 39. Engage with peers in pretend play	
3.2 With guidance and support, select information, revise ideas, and record and communicate findings.		
Standard 4: Synthesize information to share learning and/or take action.		
4.1 With guidance and support, discover relationships and patterns during the inquiry process.		
4.2 With guidance and support, use tools to communicate findings.		
4.3 With guidance and support, reflect on findings.		
Standard 5: Reflect throughout the inquiry process to assess metacognition, broaden understanding, and guide actions, individually and collaboratively.		
5.1 With guidance and support, recognize the value of individual and collective thinking.		
5.2 With guidance and support, monitor and assess learning to guide inquiry.		
Reading – Literary Text (RL)		
Principles of Reading (P)		

<b>Standard 1: Demonstrate understanding of the organization and basic features of print.</b>	
1.1 Follow words from left to right, top to bottom, and front to back.	27. Demonstrate how print is read
1.2 Recognize that spoken words are represented in written language by specific sequences of letters.	15. Distinguish words from letters
1.3 Understand that words are separated by spaces in print.	
1.4 Recognize and name all upper-and lowercase letters of the alphabet.	24. Name letters (uppercase) 25. Name letters (lowercase)
<b>Standard 2: Demonstrate understanding of spoken words, syllables and sounds.</b>	
2.1 Recognize and produce rhyming words.	16/17. Identify rhyming words
2.2 Count, produce, blend and segment syllables in spoken words.	
2.3 Blend and segment onsets and rimes of single-syllable spoken words.	
2.4 Isolate and pronounce the initial, medial, and final sounds in three-phoneme words.	19. Identify beginning sounds
2.5 Add or substitute individual sounds in simple, one-syllable words to make new words.	
<b>Standard 3: Know and apply grade-level phonics and word analysis skills when decoding words.</b>	
3.1 Produce one-to-one letter-sound correspondences for each consonant.	26. Make letter sounds
3.2 Associate long and short sounds of the five major vowels with their common spellings.	26. Make letter sounds
3.3 Read regularly spelled one-syllable words.	
3.4 Distinguish between similarly spelled consonant-vowel-consonant patterned words by identifying the sounds of the letters that differ.	
3.5 Read common high-frequency words.	
3.6 Recognize grade-appropriate irregularly spelled words.	
<b>Standard 4: Read with sufficient accuracy and fluency to support comprehension.</b>	
4.1 Read emergent-reader texts with purpose and understanding.	
4.2 Read emergent-reader texts orally with accuracy, appropriate rate, and expression.	
4.3 Use picture cues to confirm or self-correct word recognition and understanding.	
<b>Meaning and Context (MC)</b>	
<b>Standard 5: Determine meaning and develop logical interpretations by making predictions, inferring, drawing conclusions, analyzing, synthesizing, providing evidence, and investigating multiple interpretations.</b>	
5.1 With guidance and support, ask and answer who, what, when, where, why and how questions about a text; refer to key details to make inferences and draw conclusions in texts heard or read.	20/21. Answer question about story detail 22. Identify story sequence

5.2 With guidance and support, ask and answer questions to make predictions using prior knowledge, pictures, illustrations, title, and information about author and illustrator.	
<b>Standard 6: Summarize key details and ideas to support analysis of thematic development.</b>	
6.1 Describe the relationship between illustrations and the text.	
<b>Standard 7: Analyze the relationships among ideas, themes, or topics in multiple media and formats, and in visual, auditory, and kinesthetic modalities.</b>	
7.1 With guidance and support, retell a familiar text, identify beginning, middle and end in a text heard or read.	20/21. Answer question about story detail 22. Identify story sequence
7.2 Read or listen closely to compare familiar texts.	
<b>Standard 8: Analyze characters, settings, events, and ideas as they develop and interact within a particular context.</b>	
8.1 With guidance and support, read or listen closely to: a. describe characters and their actions; b. compare characters' experiences to those of the reader; c. describe setting; d. identify the problem and solution; and e. identify the cause of an event.	
<b>Language Craft and Structure (LCS)</b>	
<b>Standard 9: Interpret and analyze the author's use of words, phrases, and conventions, and how their relationships shape meaning and tone in print and multimedia texts.</b>	
9.1 With guidance and support, identify the literary devices of repetitive language and the sound devices of rhyme, onomatopoeia and alliteration; identify when the author uses each.	16/17. Identify rhyming words
9.2 With guidance and support, identify how an author's choice of words, phrases, conventions, and illustrations suggest feelings, appeal to the senses, and contribute to meaning.	
<b>Standard 10: Apply a range of strategies to determine and deepen the meaning of known, unknown, and multiple-meaning words, phrases, and jargon; acquire and use general academic and domain-specific vocabulary.</b>	
10.1 With guidance and support, ask and answer questions about known and unknown words.	
10.2 With guidance and support, identify new meanings for familiar words and apply them accurately.	
10.3 With guidance and support, use inflectional endings and affixes to determine the meaning of unknown words.	
10.4 With guidance and support, identify the individual words used to form a compound word.	
10.5 With guidance and support, use print and multimedia resources to explore word relationships and nuances in word meanings.	



10.6 With guidance and support, use words and phrases acquired through talk and text; explore nuances of words and phrases.	
<b>Standard 11: Analyze and provide evidence of how the author’s choice of point of view, perspective, or purpose shapes content, meaning, and style.</b>	
11.1 Identify the author and illustrator and define the role of each.	
11.2 Identify who is telling the story, the narrator or the characters.	
<b>Standard 12: Analyze and critique how the author uses structures in print and multimedia texts to shape meaning and impact the reader.</b>	
12.1 Recognize and sort types of literary texts.	
12.2 Recognize the crafted text structure of recurring phrases.	
<b>Range and Complexity (RC)</b>	
<b>Standard 13: Read independently and comprehend a variety of texts for the purposes of reading for enjoyment, acquiring new learning, and building stamina; reflect and respond to increasingly complex text over time.</b>	
13.1 Engage in whole and small group reading with purpose and understanding.	
13.2 Read independently for sustained periods of time to build stamina.	
13.3 Read and respond according to task and purpose to become self-directed, critical readers and thinkers.	
<b>Reading Informational Texts (RI)</b>	
<b>Principles of Reading (P)</b>	
<b>Standard 1: Demonstrate understanding of the organization and basic features of print.</b>	
1.1 Follow words from left to right, top to bottom, and front to back.	27. Demonstrate how print is read
1.2 Recognize that spoken words are represented in written language by specific sequences of letters.	15. Distinguish words from letters
1.3 Understand that words are separated by spaces in print.	
1.4 Recognize and name all upper- and lowercase letters of the alphabet.	24. Name letters (uppercase) 25. Name letters (lowercase)
<b>Standard 2: Demonstrate understanding of spoken words, syllables and sounds.</b>	
2.1 Recognize and produce rhyming words.	16/17. Identify rhyming words
2.2 Count, pronounce, blend, and segment syllables in spoken words.	
2.3 Blend and segment onsets and rimes of single-syllable spoken words.	
2.4 Isolate and pronounce the initial, medial, and final sounds in a three-phoneme word.	19. Identify beginning sounds
2.5 Add or substitute individual sounds in simple, single-syllable words to make new words.	
<b>Standard 3: Know and apply grade-level phonics and word analysis when decoding words.</b>	

3.1 Produce one-to-one letter sound correspondences for each consonant.	26. Make letter sounds
3.2 Associate long and short sounds of the five major vowels with their common spelling.	26. Make letter sounds
3.3 Read regularly spelled single-syllable words.	
3.4 Distinguish between similarly spelled consonant-vowel-consonant patterned words by identifying the sounds of the letters that differ.	
3.5 Read common high-frequency words.	
3.6 Recognize grade-appropriate irregularly spelled words.	
<b>Standard 4: Read with sufficient accuracy and fluency to support comprehension.</b>	
4.1 Read emergent-reader texts with purpose and understanding.	
4.2 Read emergent-reader texts orally with accuracy, appropriate rate, and expression.	
4.3 Use picture cues to confirm or self-correct word recognition and understanding.	
<b>Meaning and Context (MC)</b>	
<b>Standard 5: Determine meaning and develop logical interpretations by making predictions, inferring, drawing conclusions, analyzing, synthesizing, providing evidence, and investigating multiple interpretations.</b>	
5.1 With guidance and support, ask and answer who, what, when, where, why, and how questions about a text; refer to key details to make inferences and draw conclusions in texts heard or read.	20/21. Answer question about story detail 22. Identify story sequence
5.2 With guidance and support, ask and answer questions to make predictions using prior knowledge, pictures, illustrations, title, and information about author and illustrator.	
<b>Standard 6: Summarize key details and ideas to support analysis of central ideas.</b>	
6.1 With guidance and support, retell the central idea and identify key details to summarize a text heard, read, or viewed.	
<b>Standard 7: Research events, topics, ideas, or concepts through multiple media, formats, and in visual, auditory, and kinesthetic modalities.</b>	
7.1 With guidance and support, compare topics or ideas within a thematic or author study heard, read, or viewed.	
<b>Language, Craft, and Structure (LCS)</b>	
<b>Standard 8: Interpret and analyze the author's use of words, phrases, text features, conventions, and structures, and how their relationships shape meaning and tone in print and multimedia texts.</b>	
8.1 With guidance and support, identify words, phrases, illustrations, and photographs used to provide information.	
8.2 With guidance and support, use front cover, title page, illustrations/photographs, fonts, glossary, and table of contents to locate and	

describe key facts or information; describe the relationship between these features and the text.	
<b>Standard 9: Apply a range of strategies to determine and deepen the meaning of known, unknown, and multiple-meaning words, phrases, and jargon; acquire and use general academic and domain-specific vocabulary.</b>	
9.1 With guidance and support, ask and answer questions about known and unknown words.	
9.2 With guidance and support, identify new meanings for familiar words and apply them accurately.	
9.3 With guidance and support, use inflectional endings and affixes to determine the meaning of unknown words.	
9.4 With guidance and support, use print and multimedia resources to explore word relationships and meanings.	
9.5 With guidance and support use words and phrases acquired through talk and text; explore nuances of words and phrases.	
<b>Standard 10: Analyze and provide evidence of how the author's choice of purpose and perspective shapes content, meaning, and style.</b>	
10.1 Identify the author and illustrator and define the role of each.	
<b>Standard 11: Analyze and critique how the author uses structures in print and multimedia texts to craft informational and argument writing.</b>	
11.1 With guidance and support, explore informational text structures within texts heard or read.	
11.2 With guidance and support, identify the reasons an author gives to support a position.	
<b>Range and Complexity (RC)</b>	
<b>Standard 12: Read independently and comprehend a variety of texts for the purposes of reading for enjoyment, acquiring new learning, and building stamina; reflect and respond to increasingly complex text over time.</b>	
12.1 Engage in whole and small group reading with purpose and understanding.	20/21. Answer question about story detail 22. Identify story sequence
12.2 Read independently for sustained periods of time.	
12.3 Read and respond according to task and purpose to become self-directed, critical readers and thinkers.	
<b>Writing (W)</b>	
<b>Meaning, Context, and Craft (MCC)</b>	
<b>Standard 1: Write arguments to support claims with clear reasons and relevant evidence.</b>	
1.1 Use a combination of drawing, dictating, and writing to state the topic and communicate an opinion about it.	
1.2 With guidance and support, plan, revise, and edit building on personal ideas and the ideas of others to strengthen writing.	

<b>Standard 2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.</b>	
2.1 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts that name and supply information about the topic.	
2.2 With guidance and support, plan, revise, and edit building on personal ideas and the ideas of others to strengthen writing.	
<b>Standard 3: Write narratives to develop real or imagined experiences or events using effective techniques, well-chosen details, and well-structured event sequences.</b>	
3.1 Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, to tell about the events in the order in which they occurred, and to provide a reaction to what happened.	
3.2 With guidance and support, plan, revise, and edit building on personal ideas and the ideas of others to strengthen writing.	
<b>Language (L)</b>	
<b>Standard 4: Demonstrate the conventions of standard English grammar and usage when writing and speaking.</b>	
4.1 With guidance and support, use nouns.	23. Name nouns and verbs
4.2 With guidance and support, form regular plural nouns orally by adding /s/ or /es/.	
4.3 With guidance and support, understand and use interrogatives.	
4.4 With guidance and support, use verbs.	23. Name nouns and verbs
4.5 With guidance and support, use adjectives.	
4.6 With guidance and support, use prepositional phrases.	14. Use prepositions
4.7 With guidance and support, use conjunctions.	
4.8 Produce and expand complete sentences.	
<b>Standard 5: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</b>	
5.1 Capitalize the first word in a sentence and the pronoun I.	
5.2 Recognize and name end punctuation.	
5.3 Write letter(s) for familiar consonant and vowel sounds.	
5.4 Spell simple words phonetically.	
5.5 Consult print and multimedia resources to check and correct spellings.	
<b>Range and Complexity (RC)</b>	
<b>Standard 6: Write independently, legibly, and routinely for a variety of purposes, and audiences over short and extended time frames.</b>	
6.1 With guidance and support, write routinely and persevere in writing tasks for a variety of purposes and audiences.	
6.2 Print upper- and lowercase letters.	29. Write first name

6.3 Recognize that print moves from left to right and that there are spaces between words.	27. Demonstrate how book is read
6.4 Locate letter keys on an electronic device.	
<b>Communication (C)</b>	
<b>Meaning and Context (MC)</b>	
<b>Standard 1: Interact with others to explore ideas and concepts, communicate meaning, and develop logical interpretations through collaborative conversations; build upon the ideas of others to clearly express one's own views while respecting diverse perspectives.</b>	
1.1 Explore and create meaning through play, conversation, drama, and story-telling.	28. Engage in conversations 39. Engage with peers in pretend play
1.2 Practice the skills of taking turns, listening to others, and speaking clearly.	28. Engage in conversations 34. Wait to take turns
1.3 Practice verbal and nonverbal techniques including volume and tone, eye contact, facial expressions, and posture.	28. Engage in conversations
1.4 Participate in conversations with varied partners about focused grade level topics and texts in small and large groups.	28. Engage in conversations
1.5 Explain personal ideas and build on the ideas of others by responding and relating to comments made.	28. Engage in conversations
<b>Standard 2: Articulate ideas, claims, and perspectives in a logical sequence using information, findings, and credible evidence from sources.</b>	
2.1 With guidance and support, recall information from experiences or gather information from sources to ask and answer questions.	20/21. Answer question about story detail
2.2 With guidance and support, participate in shared research exploring a variety of texts; express opinions and talk about findings.	
<b>Standard 3: Communicate information through strategic use of multiple modalities and multimedia to enrich understanding when presenting ideas and information.</b>	
3.1 Explore how ideas and topics are depicted in a variety of media and formats.	
3.2 Use appropriate props, images, or illustrations to support verbal communication.	
<b>Language, Craft and Structure (LCS)</b>	
<b>Standard 4: Critique how a speaker addresses content and uses stylistic and structural craft techniques to inform, engage, and impact audiences.</b>	
4.1 Identify speaker's purpose.	
4.2 Identify the introduction and conclusion of a presentation.	
4.3 Identify when the speaker uses intonation and word stress.	
<b>Standard 5: Incorporate craft techniques to engage and impact audience and convey messages.</b>	
5.1 Use voice inflection, expression, rhythm, and rhyme, when presenting poems, short stories, role-plays, or songs.	16/17. Identify rhyming words

5.2 Employ repetitive language, onomatopoeia and/or alliteration to impact the audience.	
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## Kindergarten Math Standards

South Carolina Kindergarten Standard	KRA
<b>Number Sense</b>	
K.NS.1 Count forward by ones and tens to 100.	1. Count to 20
K.NS.2 Count forward by ones beginning from any number less than 100.	1. Count to 20
K.NS.3 Read numbers from 0-20 and represent a number of objects 0-20 with a written numeral.	3. Name numerals 8. Pair numerals with sets
K.NS.4 Understand the relationship between number and quantity. Connect counting to cardinality by demonstrating an understanding that: a. the last number said tells the number of objects in the set (cardinality); b. the number of objects is the same regardless of their arrangement or the order in which they are counted (conservation of number); c. each successive number name refers to a quantity that is one more and each previous number name refers to a quantity that is one less.	2. Tell how many 4. Solve simple addition problems 6. Identify a set that has “the same number as” 7. Identify a set that is “less than” 9. Determine amount needed to complete a set
K.NS.5 Count a given number of objects from 1-20 and connect this sequence in a one-to-one manner.	2. Tell how many 4. Solve simple addition problems 6. Identify a set that has “the same number as” 7. Identify a set that is “less than” 9. Determine amount needed to complete a set
K.NS.6 Recognize a quantity of up to ten objects in an organized arrangement (subitizing).	
K.NS.7 Determine whether the number of up to ten objects in one group is more than, less than, or equal to the number of up to ten objects in another group using matching and counting strategies.	6. Identify a set that has “the same number as” 7. Identify a set that is “less than”
K.NS.8 Compare two written numerals up to 10 using more than, less than, or equal to.	9. Pair numerals with sets
K.NS.9 Identify first through fifth and last positions in a line of objects.	
<b>Number Sense and Base Ten</b>	
K.NSBT.1 Compose and decompose numbers from 11-19 separating ten ones from the remaining ones using objects and drawings.	
<b>Algebraic Thinking and Operations</b>	
K.ATO.1 Model situations that involve addition and subtraction within 10 using objects, fingers, mental images, drawings, acting out situations, verbal explanations, expressions, and equations.	4. Solve simple addition problems

K.ATO.2 Solve real-world/story problems using objects and drawings to find sums up to 10 and differences within 10.	
K.ATO.3 Compose and decompose numbers up to 10 using objects, drawings, and equations.	
K.ATO.4 Create a sum of 10 using objects and drawings when given one of two addends 1-9.	4. Solve simple addition problem
K.ATO.5 Add and subtract fluently within 5.	
K.ATO.6 Describe simple repeating patterns using AB, AAB, ABB, and ABC type patterns.	
<b>Geometry</b>	
K.G.1 Describe positions of objects by appropriately using terms, including <i>below, above, beside, between, inside, outside, in front of, or behind</i> .	14. Use prepositions
K.G.2 Identify and describe a given shape and shapes of objects in everyday situations to include two-dimensional shapes (i.e., triangle, square, rectangle, hexagon, and circle) and three-dimensional shapes (i.e., cone, cube, cylinder, and sphere).	5. Name shapes
K.G.3 Classify shapes as two-dimensional/flat or three-dimensional/solid and explain the reasoning used.	
K.G.4 Analyze and compare two- and three-dimensional shapes of different sizes and orientations using informal language.	
K.G.5 Draw two-dimensional shapes (i.e., square, rectangle, triangle, hexagon, and circle) and create models of three-dimensional shapes (i.e., cone, cube, cylinder, and sphere).	
<b>Measurement and Data Analysis</b>	
K.MDA.1 Identify measurable attributes (length, weight) of an object.	11. Compare height 12. Order objects by size
K.MDA.2 Compare objects using words such as <i>shorter/longer, shorter/taller, and lighter/heavier</i> .	11. Compare height 12. Order objects by size
K.MDA.3 Sort and classify data into 2 or 3 categories with data not to exceed 20 items in each category.	10. Sort by one attribute
K.MDA.4 Represent data using object and picture graphs and draw conclusions from the graphs.	

### Kindergarten Science Standards

South Carolina Kindergarten Standard	KRA
<b>Physical science (PS)</b>	
<b>PS2: Motion and Stability: Forces and Interactions</b>	

K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object	
K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	
<b>PS3: Energy</b>	
K-PS3.1 Make observations to determine the effect of sunlight on Earth's surface.	
K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.	
<b>LS1: Molecules to Organisms: Structures and Processes</b>	
K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.	
<b>ESS2: Earth's Systems</b>	
K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.	
K-ESS2.2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.	
<b>ESS3: Earth and Human Activity</b>	
K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.	
K-ESS3-2. Ask questions to understand the purpose of weather forecasting to prepare for and respond to severe weather.	
K-ESS3-3. Obtain and communicate information to define problems related to human impact on the local environment	
<b>Engineering, Technology, and Applications of Science</b>	
ETS1.A: Defining and Delimiting an Engineering Problem	
ETS1.B: Developing Possible Solutions	37. Solves problems
ETS2.A: Interdependence of Science, Engineering, and Technology	
Science and Engineering Practices	
<b>Asking Questions and Defining Problems</b>	
K-ESS3-2. Ask questions based on observations to find more information about the designed world	38. Express a desire to learn



<b>Developing and Using Models</b>	
K-ESS3-1. Use a model to represent relationships in the natural world	
<b>Planning and Carrying out Scientific Investigations</b>	
K-PS2-1. With guidance, plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question	
K-PS3-1. Make observations (firsthand or from media) to collect data that can be used to make comparisons	
<b>Analyzing and Interpreting Data</b>	
K-PS2-2. Analyze data from tests of an object or tool to determine if it works as intended	
K-LS1-1./K-ESS2.1 Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.	
<b>Use Mathematical and Computational Thinking</b>	
<b>Constructing Explanations and Designing Solutions</b>	
K-PS3-2. Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem	
<b>Engaging in Argument from Evidence</b>	
K-ESS2-2. Construct an argument with evidence to support a claim	
<b>Obtaining, Evaluating and Communicating Information</b>	
K-ESS3-3. Communicate information with others in oral and/or written forms using models, drawings, writing, or numbers that provide detail about scientific ideas.	

Kindergarten Social Studies Standards

<b>South Carolina Kindergarten Standard</b>	<b>KRA</b>
<b>History</b>	
<b>Standard 1: Utilize the college and career skills of a historian to study continuity and change over time for one's personal history and one's community.</b>	
K.H.1 Identify similarities and differences between oneself and others.	
K.H.2 Examine ways in which individuals change or stay the same over time.	
K.H.3 Identify different forms of evidence used in historical inquiry, such as digital sources, maps, photographs/images, or texts.	

<b>Geography</b>	
<b>Standard 2: Utilize the college and career skills of a geographer to apply map skills and draw conclusions about place in one's personal community.</b>	
K.G.1 Identify a map, various map features, and explain the purpose of maps.	
K.G.2 Utilize sources of geographic information (e.g., digital sources, maps, or photographs/images) to define and identify cultural and/or natural features.	
K.G.3 Describe and compare the cultural and natural environment around one's home and school by constructing a visual representation.	
<b>Economics</b>	
<b>Standard 3: Utilize the college and career skills of an economist to understand how economic decisions affect one's personal community.</b>	
K.E.1 Identify and compare wants and needs.	
K.E.2 Explain how wants and needs change over time.	
K.E.3 Explain why people have jobs, and describe the economic benefits for self and community.	
K.E.4 Identify an economic want or need at one's school or community level and create a solution.	
<b>Civics and Government</b>	
<b>Standard 4: Utilize the college and career skills of a political scientist to understand and display civic dispositions in one's personal community.</b>	
K.CG.1 Identify similarities and differences between people and discuss ways to protect and respect all people by practicing civic dispositions.	
K.CG.2 Explain the purpose of rules and laws, and discuss consequences of breaking them.	41. Explain why rules are needed
K.CG.3 Establish and practice classroom rules and procedures for listening and responding appropriately to others.	34. Wait to take turns 41. Explain why rules are needed
K.CG.4 Collaborate with others to identify a classroom or school issue and propose a resolution using civic dispositions.	

**Table A. 14: Profile Standards Table**

First Step Profile Standards	Teaching Strategies Gold	IGDIs-EL	PALS-PreK	KRA
<b>Approaches to Learning and Inquiry</b>				
Demonstrates eagerness to learn	11. Demonstrates positive approaches to learning			38. Express a desire to learn

Shows curiosity through questioning	11. Demonstrates positive approaches to learning			38. Express a desire to learn
Shows creativity and imagination through pretend play	14. Uses symbols and images to represent something not present			39. Engages with peers in pretend play
Engages in daily opportunities for play and exploration	14. Uses symbols and images to represent something not present			39. Engages with peers in pretend play
Shows willingness to try new things	11. Demonstrates positive approaches to learning			38. Express a desire to learn
Persists in tasks that are challenging	11. Demonstrates positive approaches to learning			
Maintains attention	11. Demonstrates positive approaches to learning			33. Control impulses and behavior 35. Focus on activities
Applies learning to new situations	11. Demonstrates positive approaches to learning			
Solves problems with materials at hand	11. Demonstrates positive approaches to learning			37. Solves problems
Uses senses and observations to learn about the world around them	24. Uses scientific inquiry skills 13. Uses classification skills			
<b>Physical Development, Self-Help, and Motor Skills</b>				
Moves with control and balance while walking, running, jumping and climbing	4. Demonstrates traveling skills 5. Demonstrates balancing skills 6. Demonstrates gross-motor manipulative skills			42. Move through a crowded environment 43. Run, jump, and/or hop 44. Bend, stretch, and/or twist
Uses fingers to control small objects, such as pencils/crayons, scissors, buttons, zippers	7. Demonstrate fine-motor strength and coordination			45. Hold scissors 46. Hold writing tool
Uses hand-eye coordination to perform simple tasks, like putting together a puzzle	7. Demonstrate fine-motor strength and coordination			45. Hold scissors
Independently performs self-help tasks such as toileting, hand washing, tooth brushing and dressing				49. Complete personal care tasks 50. Follow basic health practices
<b>Emotional and Social Development</b>				

Shares, takes turns and plays well with others	2. Establishes and sustains positive relationships 3. Participates cooperatively and constructively in group situation			34. Waits to take turns 39. Engage with peers in pretend play 40. Shares materials with peers
Follows simple rules and directions	1.Regulates own emotions and behaviors 8. Listens to and understands increasingly complex language			36. Follows multi-step directions 41. Explains why rules are needed 47. Follows basic safety rules
Expresses emotions through appropriate actions and words	1.Regulates own emotions and behaviors 2. Establishes and sustains positive relationships			31. Express own emotions 32. Ask familiar adults for help
Adjusts to changes in routine and environment	1.Regulates own emotions and behaviors			35. Focus on activities
Shows self-control	1.Regulates own emotions and behaviors			33. Control impulses and behavior
Shows caring and understanding of others' feelings				
Interacts with familiar adults	2. Establishes and sustains positive relationships			32. Asks familiar adults for help
Respects the property of others				
Resolves conflicts using words and adult support	2. Establishes and sustains positive relationships			28. Engage in conversations 31. Express own emotions 32. Ask familiar adults for help
Makes friends	2. Establishes and sustains positive relationships			
<b>Mathematical thinking</b>				
<b>Number Sense</b>				
Counts in sequence up to 20	20. Uses number concepts and operations			1.Count to 20
Counts up to 10 objects, using one number for each object	20. Uses number concepts and operations			2. Tell how many

Recognizes up to five objects in a group without counting				
Compares sets of objects by quantity (more than or less than)	20. Uses number concepts and operations			6. Identify set that has “the same number as” 7. Identify set that is “less than”
Describes and compares objects by size (big and small), length (long and short) and weight (light and heavy)	22. Compares and measures			11. Compare height 12. Order objects by size
Understands and uses the terms first, second and third				22. Identifying story sequence
<b>Matching Sorting and Classifying</b>				
Recognizes and draws basic shapes, such as circle, square and triangle	21. Explores and describes spatial relationships and shapes			13. Match shapes
Recognizes and repeats simple repeating patterns, such as triangle, square, triangle, square	23. Demonstrate knowledge of patterns			
Describes the positions of objects using the terms above and below	21. Understands spatial relationships			14. Use prepositions
Sorts and classifies up to 10 objects into categories				10. Sort by one attribute
<b>Language and Literacy Development</b>				
<b>Listening, Speaking and Understanding</b>				
Converses with others, taking turns speaking and listening	8. Listens to and understands increasingly complex language 9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills			28. Engage in conversations
Speaks clearly, expressing ideas and questions	9. Uses language to express thoughts and needs			28. Engage in conversations

				30. Use words that reflect variety, specificity, and complexity 32. Ask familiar adults for help 38. Express and desire to learn
Uses words to seek help, answer questions and solve problems	8. Listens to and understands increasingly complex language 9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills			30. Use words that reflect variety, specificity, and complexity 32. Ask familiar adults for help 38. Express and desire to learn
Speaks in complete sentences of at least six to eight words	9. Uses language to express thoughts and needs 10. Uses appropriate conversational and other communication skills			28. Engage in conversations 30. Use words that reflect variety, specificity, and complexity
Listens to stories and retells them	18. Comprehends and responds to books and other texts			
Begins to ask questions about stories that are read aloud	18. Comprehends and responds to books and other texts			
Follows directions and completes tasks that require multiple steps	8. Listens to and understands increasingly complex language			36. Follows multi step directions
Asks and answers “how” and “why” questions				38. Express a desire to learn
<b>Early Reading</b>				
Shows interest in books and reading				
Holds books upright, turning pages one at a time from front to back	17. Demonstrates knowledge of print and its uses		4. Print and Word Awareness	27. Demonstrate how print is read
Knows that printed words have meaning	15. Demonstrates phonological awareness, phonics skills, and word recognition		4. Print and Word Awareness	15. Distinguish words from letters

Uses pictures in a book to tell and retell the story	17. Demonstrates knowledge of print and its uses 18. Comprehends and responds to books and other texts			20/21. Answer question about story detail V1-2 22. Identify story sequence
Recognizes and names/reads familiar signs and logos	17. Demonstrates knowledge of print and its uses			
Listens to a story being read aloud	18. Comprehends and responds to books and other texts			20/21. Answer question about story detail V1-2
Makes predictions about what will happen in a story being read aloud	18. Comprehends and responds to books and other texts			
Begins to follow text from left to right as it is read aloud	17. Demonstrates knowledge of print and its uses 18. Comprehends and responds to books and other texts		4. Print and Word Awareness	27. Demonstrate how print is read
Recognizes and names rhyming words	15. Demonstrates phonological awareness, phonics skills, and word recognition	Rhyming	5. Rhyme Awareness	16/17. Identify rhyming words V1-2
Recognizes that letters represent spoken words	15. Demonstrates phonological awareness, phonics skills, and word recognition 16. Demonstrates knowledge of the alphabet		4. Print and Word Awareness	15. Distinguish words from letters
Recognizes some upper and lowercase letters and their sounds	15. Demonstrates phonological awareness, phonics skills, and word recognition 16. Demonstrates knowledge of the alphabet	Sound Identification	2. Alphabet Awareness a. Uppercase Alphabet Recognition b. Lowercase Alphabet Recognition c. Letter Sounds	18./19. Identify beginning sounds V1-2 24./25. Name letters (uppercase and lowercase) 26. Make letter sounds
Recognizes that spoken words can be represented in written language	15. Demonstrates phonological awareness, phonics skills, and word recognition 16. Demonstrates knowledge of the alphabet		1. Name Writing	15. Distinguish words from letters
Recognizes written name as well as other familiar words	15. Demonstrates phonological awareness,		1. Name Writing	15. Distinguish words from letters

	phonics skills, and word recognition 16. Demonstrates knowledge of the alphabet			
Begins to use pictures and text read aloud to learn the meaning of unfamiliar words	18. Comprehends and responds to books and other texts	Picture naming		
<b>Early Writing</b>				
Draws pictures and tells their story				
Writes using a combination of letters, letter-like shapes and scribbles	19. Demonstrates writing skills		1. Name Writing	
Uses drawing and writing during play	19. Demonstrates writing skills		1. Name Writing	
Writes name independently or using an example	19. Demonstrates writing skills		1. Name Writing	



# South Carolina Program Credentials Report

**June 30, 2022**

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# **South Carolina Department of Education**

## **Division of Career and Technical Education**

### **Program Credentials Report Prepared by SREB**

#### **Section 1: Credentials of Value Project Overview**

The South Carolina Department of Education Office of Career and Technical Education has partnered with the Southern Regional Education Board (SREB) to extend support that was initiated in the Spring of 2021 to assist with the organization of credentials of value associated with the state's career pathways. This continuation of work supports the state's proposed tiered approach to organize and communicate the value of secondary credentials and engage shareholders in discussions to validate and prioritize credentials across all career cluster areas.

Building on the work from the Spring of 2021, SREB has analyzed the remaining career cluster areas and hosted shareholder sessions to build awareness and gather feedback on the list of available secondary credentials. The table below highlights the career clusters that were addressed and the timeline for shareholder meetings.

**Table 1: Project Timeline by Career Cluster Group**

<b>Group 1— March 2022</b>	<b>Group 2— April- May 2022</b>	<b>Group 3— May 2022</b>
<ul style="list-style-type: none"><li>• Education and Training Careers</li><li>• Hospitality and Tourism</li><li>• Human Services</li></ul>	<ul style="list-style-type: none"><li>• Agricultural Education</li><li>• Government and Public Administration</li><li>• Law, Public Safety, Corrections and Security</li><li>• Science, Technology, Engineering and Mathematics</li></ul>	<ul style="list-style-type: none"><li>• Marketing</li><li>• Arts, AV Technology and Communication</li><li>• Finance</li></ul>

#### **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 has worked with CTE leaders to include updates to the list that were provided to the Education Oversight Committee in the Fall of 2021. The updated list reflects proposed changes to the available certifications and now includes approximately 500 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 shareholder feedback sessions to gather input and recommendations on the tiered list of credentials. The virtual shareholder feedback sessions were hosted during March, April and May of 2022 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.

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**

SREB generated a set of findings based on the work that was completed in the Spring of 2021. Through this continuation of work, those initial findings can still be applied to the available certifications. For ease of access, a summary of the findings provided in the initial report has been included here.

#### **Major Findings from the Spring of 2021**

- 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 2: Examples of Tier Inflation**

<b>Primary Cluster Area(s)</b>	<b>CTE Certification</b>	<b>ID</b>	<b>Career Ready Designation</b>	<b>SC Initial Proposed Tier</b>	<b>Tier Designation of Other States</b>
AGR	Ducks Unlimited	420	No	3	1 or 2
MRK	Google Analytics	213	Yes	3	1
BUS	Various MOS Certifications	Various	No	2	1
STEM	Autodesk Inventor	A44	Yes	3	2
EDUC	Education Fundamentals	70	Yes	3	1 or 2

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.

When analyzing common course sequences and related certifications (in our 2022 discussions), it was noted that the proposed tier language will need to be used with shareholder teams to vet and revise the proposed tier designations to better communicate the value and rigor of credentials. Simply stated, credentials that can be earned earlier in the course sequence should be analyzed and re-tiered. For example, if the South Carolina Early Childhood Credential can be earned in Early Childhood Education 1 (the first course of the sequence), then it should not be designated as a Tier 3 certification.

## **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 2021), 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 Arts, AV Technology and Communications Career Cluster. From the list below, the certifications in **bold font** represent those currently available to high school students. The occupational gap summaries for the each of the analyzed career clusters have been provided in Appendix C.

**Table 3: High-Value (Most Requested) Credentials for the Arts, AV Technology and Communications Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
<b>Cisco Certified Network Associate (CCNA)</b>	4	8
Commercial Driver's License (CDL)	0	4
<b>Google AdWords Certification</b>	0	2
Google Analytics Individual Qualification (Google Analytics IQ)	0	2
<b>OSHA 10</b>	4	5
AED Essentials	0	1
<b>CompTIA A+ Certification (A+ Certification)</b>	1	0
Certified Alarm Technician	1	0
<b>Certification in Cardiopulmonary Resuscitation (CPR)</b>	5	4
Certified Technology Specialist (CTS)	11	11

SREB analyzed data on the number of certifications attempted and earned by SC high school students. Table 4 (below) provides the list of 2020-2021 Certifications Earned for the Arts, AV Technology and Communications Career Cluster and 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: 2020-2021 Certifications Earned for the Arts, AV Technology and Communications Career Cluster**

<b>Certification</b>	<b>Number of Certifications Earned</b>
Adobe Certified Associate Print & Digital Media Publication with Adobe InDesign [A39]	94
Adobe Certified Associate-Graphic Design & Illustration with Adobe Illustrator [A40]	36
Adobe Certified Associate-Rich Media Communication with Adobe Flash [82]	16
Adobe Certified Associate-Video Communication with Adobe Premiere Pro [83]	21
Adobe Certified Associate-Visual Communication with Adobe Photoshop [80]	231
Adobe Certified Associate-Web Communication with Adobe Dreamweaver [81]	19
AutoDesk Auto CAD [357]	10
Fashion, Textiles and Apparel Assessment/Certification [72]	2
Flexography First Operator Certification FTA1 [312]	8
Interior Design Fundamentals Assessment/Certification [73]	3
Precision Exams: Graphic Communications Intro [317]	6

**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 career cluster area 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 PowerPoint) provides a foundation for visuals that can be developed to show the alignment among education and training programs, related credentials and occupations.

While both feedback and Builders’ sessions were provided, there was limited participation and engagement overall. The table below provides a summary of the feedback responses that were submitted for each Career Cluster Area.

**Table 5: Number of Feedback Responses by Cluster Area and Shareholder Type**

<b>Career Cluster Areas</b>	<b>CTE Directors</b>	<b>Postsecondary Partners</b>	<b>Business and Industry Partners</b>
<b>Education and Training</b>	14	6	3
<b>Hospitality and Tourism</b>	15	4	3
<b>Human Services</b>	21	2	4
<b>Agriculture, Food and Natural Resources</b>	6	1	0
<b>Government and Public Administration</b>	3	0	2
<b>Law, Public Safety, Corrections and Security</b>	6	2	1
<b>STEM</b>	4	5	2
<b>Marketing, Sales and Service</b>	0	3	0
<b>Arts, AV Technology and Communication</b>	0	1	2
<b>Finance</b>	0	5	0

## Section 4: Recommendations and Emerging Needs

SREB provided a set of structured recommendations in September of 2021. Recommendations were provided to both CTE leaders and the Education Oversight Committee. With the challenges of the 2021-2022 school year and changes in leadership, many of the provided recommendations have not been addressed. SREB has provided a copy of the 2021 Report in Appendix E. It is highly recommended that the committee review the 2021 Report before reading the following recommendations.

While SREB supports the recommendations and related actions identified in 2021, new and emerging needs have been identified through the work completed in 2022. Many of the recommendations provided below have emerged from our work with South Carolina Shareholders or trends that SREB has identified across our region.

For ease of access, below is the abbreviated list of recommendations with emerging needs.

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

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.

*EMERGING NEED:* With the recent changes in leadership (at all levels), SREB encourages the state to review the existing structure or groups that are used to provide guidance and feedback on pathway content, certifications and resources. To enhance the current system and extend the work of the Education and Economic Development Coordinating Council, consider adopting or adapting Alabama’s Committee on Credentials and Career Pathways (ACCCP). The Alabama Committee on Credentials and Career Pathways was created by Alabama Act 2019-506 to inform the state’s work on career pathways and credentials. The committee:

- Is co-chaired by the Alabama State Superintendent of Education and the Chancellor of the Alabama Community College System and is composed of ex officio members, appointees or their designees.
- Is charged with identifying statewide and regional lists of in-demand occupations and credentials of value associated with the 16 nationally recognized career clusters; and identifying career pathways and competency models by connecting occupations from entry level to advanced level.

The makeup of the committee is like South Carolina’s Education and Economic Development Coordinating Council, with additional appointees who serve to represent each of the state’s workforce regions. Committee is then supported by 16 Technical Advisory Committees (TACs) that are each composed of shareholders who support each career cluster area. Those shareholders include representatives from business and industry who guide and inform the committee about in-demand occupations, skill needs and industry valued certifications for the cluster.

This recommended structure would support needed cross-agency collaboration to align education and workforce systems (as described in Recommendation #5 from 2021) and support South Carolina’s work to develop and sustain a Credential Registry System.



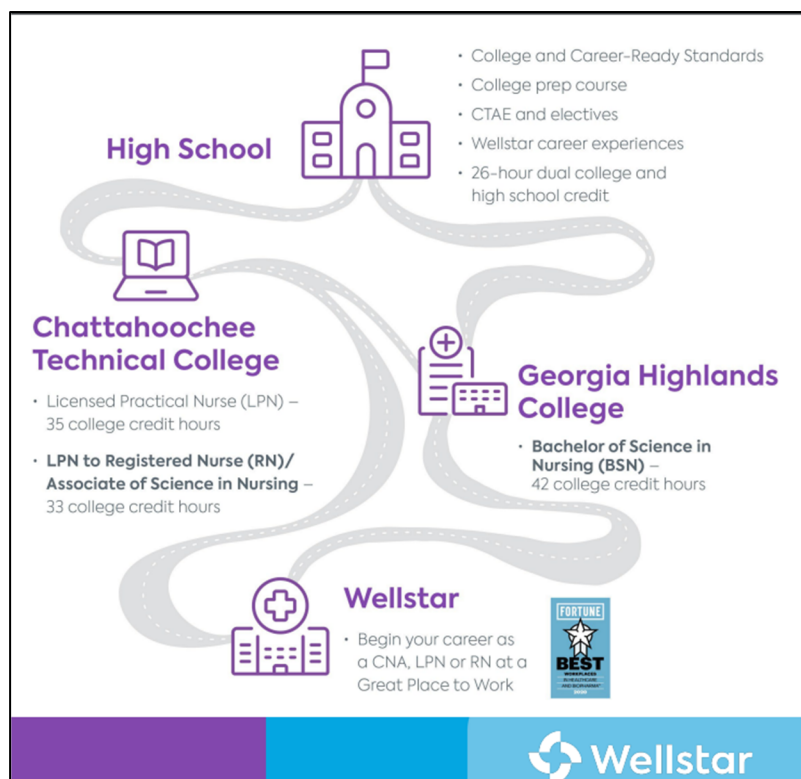
For additional information visit <https://alabamaworks.com/acccp/>.

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

In 2021, SREB collaborated with South Carolina 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.

During Spring and Summer 2022, SREB convened additional shareholder groups to review the certifications for the remaining career clusters. All 16 clusters were reviewed.

**EMERGING NEED:** While stackable credentials can provide a benefit to students and adults, credentials are not equally available for all career pathways. For career pathways that do not have equally valued secondary credentials, consider hosting structured meetings with secondary, postsecondary and industry leaders to create an enhanced dual credit CTE pathway. These pathways would allow students to earn postsecondary credits while in high school, learn valuable skills and have internship and apprenticeship opportunities with regional industry partners. One example of a structured DE CTE Pathway is the Nursing Career Pathway Program that has been supported by WellStar in Georgia. As the visual below shows, the pathway begins in high school and provides students with viable pathway options as they work to be employed as a nurse. While a nursing example has been provided here, South Carolina could develop a similar DE CTE Pathway for Advanced Manufacturing, Engineering and STEM related programs of study.



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

The review of current credentials revealed significant gaps between the credentials requested within job postings and those earned by high school students. Thus, SREB recommends the state strengthen its screen and approval process. The goal 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.

*EMERGING NEED:* Throughout this work, shareholders have expressed concerns about the transition to the tiered system. Shareholders are concerned about how the transition will impact accountability data (for career readiness), and many are confused about how the tiers will be used. SREB encourages state leaders to:

- Release the approved list of credentials and tier designations as soon as possible.
- Provide examples to showcase how credentials will be stacked or bundled for each career cluster area (such as the examples that were provided in the Builders’ Sessions).
- Use 2021-2022 data to create mock reports that can be used to preview how the tiered system will impact schools and districts.
- Support shareholders to understand that the transition to the new system may cause an expected “dip” in credential data; and
- Engage shareholders, either virtually or in-person, in the review of the updated list and tiers by cluster area to gather questions or concerns.

### **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
- Actively Review Blueprints and Resources Associated with New Certifications
- Provide Skill and Certification Gap Information

*EMERGING NEED:* Throughout the virtual sessions and presentations to shareholders, one common concern emerged. That concern centered on funding for the newly “stacked” certifications. SREB encourages South Carolina Leaders to investigate the return on investment of the funds that are currently used to support the existing system. This return on investment can begin with the analysis of funds expended on certifications during the last assessment cycle. As a part of the analysis, compare the funds expended considering the proposed tier designation of the certification and the Career Readiness designation.

To further support this work, SREB suggests South Carolina review other states’ mechanisms for paying for credentials of value. Several states in the region have allocated funds specifically for in-demand credentials.

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

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](#).

*EMERGING NEED:* While SREB provided labor marked data to session participants, the Department of Commerce, SC Works and SC Competes can also provide data to better understand in-demand jobs and resources within the state. These existing partnerships can be expanded to support both CTE teachers and leaders as they work to better understand state and regional job postings as well as training support that is provided through the regional workforce offices.

## 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, provided is trend data highlighting the number of certifications attempted and passed from 2018-2022 (represented in Columns M through V). Career Cluster Enrollment Data for the past three academic years has been provided in Columns W through Y.

During the Spring 2022 review of CTE certifications, SREB compared the certifications of selected states within our Making Schools Work Network. SREB selected states that were using a tiered system, such as Ohio, Louisiana, North Carolina and Tennessee. SREB has provided comparisons of certifications in text boxes within the Excel file. Please note that only advanced (tier 2 or 3) certifications are designated in these areas. For clarity, translation notes (as seen below) are provided for each state. For example, credentials classified as Recognized in Tennessee would equate to a Tier 1 Level in the proposed South Carolina System. Numbers included in the comparison boxes reference South Carolina’s Tiers.

<b>OH</b> 1--1-3 pts 2--6 pts 3--12 pts	<b>GA</b> Please note that Georgia focuses on End of Pathway Assessments at this time. Certifications referenced here would be at the Tier 2 or 3 Level.	<b>LA</b> 1 or 2--Basic 3--Advanced	<b>NC</b> 2--Essential 3--Career	<b>TN</b> 1--Recognized 2--Valued 3--Preferred
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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 the Marketing, Sales and Service Cluster has been provided below as an example.

### [Linked Access to the Appendix A Excel Spreadsheet](#)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
1	Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (N/A)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edit	Currently CR Approved	CR Status	Certs Admin FY18 (22,805)	Certs Passed FY18 (20,197)	Certs Admin FY19 (30,773)	Certs Passed FY19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment	
2	MRK					Marketing CLUSTER Enrollment																	7,736	8,813	8,887	
3	MRK				206	Bing Ads (Microsoft Advertising Certification)			3	2	Yes	CR				1	0						38	24		
4	MRK				346	CTECS: Marketing Communications		2			No	NCR							2	2	43	30				
5	MRK				347	CTECS: Marketing Management		2			No	NCR							2	2	25	16				
6	MRK				348	CTECS: Merchandising		2			No	NCR										26	22			
7	MRK				211	Facebook Certified Media Planning Professional			3	2	Yes	CR														
8	MRK				212	Google Advertising Fundamentals Exam (Google AdWords)			3		Yes	CR					27	19	10	10	126	72				
9	MRK				213	Google Analytics			3		Yes	CR										14	14			
10	MRK				388	Precision Exams: Advertising and Promotion		1			No	NCR										77	77			
11	MRK				389	Precision Exams: Digital Marketing		1			No	NCR														
12	MRK				390	Precision Exams: Real Estate		1			No	NCR														
13	MRK				391	Precision Exams: Social Media Marketing		1			No	NCR														
14	MRK				392	Precision Exams: Sports and Entertainment Marketing		1			No	NCR							11	11	22	22				
15	MRK				214	Retail Industry Fundamentals: National Retail Federation			3	2	Yes	CR														
16	MRK					Total Certifications Administered and Earned for the Cluster										1	0	27	19	25	25	371	277			
17																										
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The links below provide access to the credential information from the comparison states found within Appendix A.

- Ohio: <https://education.ohio.gov/Topics/Ohio-s-Graduation-Requirements/Industry-Recognized-Credentials/Industry-Recognized-Credentials-by-Career-Field>
- North Carolina: <https://nccareers.org/credentials/credentials-list>
- Georgia: <https://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/CTAE-Georgia-Assessments.aspx>
- Louisiana: [https://www.laworks.net/Downloads/PR/WIC/IBC\\_StateFocusList.pdf](https://www.laworks.net/Downloads/PR/WIC/IBC_StateFocusList.pdf)
- Tennessee: <https://www.tn.gov/education/career-and-technical-education/student-industry-certification.html>

## Appendix B—Sample Secondary “Stackable” Visuals

Slides have been created for each career cluster analyzed this spring. The designed slides communicate common course sequences of career pathways as they relate to each of the analyzed career clusters. The course sequences and related credentials were developed for the Builders’ Sessions that were held in the Spring of 2022. The first slide(s) for each career cluster provide common course sequences and related certifications, and the final slide provides current in-demand occupations and postsecondary opportunities for the career cluster. The information and data represented on these slides reflect overall information for the state of South Carolina. As local districts or regions work to create visuals based on these resources, local course sequencing and labor market data should be highlighted.

A sample set of slides for the Education and Training Career Cluster has been provided below. The full set of slides has been provided within Appendix B that is attached to this report.

[Link Access to Appendix B PowerPoint Slides](#)

Education and Training Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
1. Early Childhood Education	Early Childhood Education 1	Early Childhood Education 2	Teacher Cadet 1: Experiencing Education	Teacher Cadet 2: Ed Psychology
Certifications	SC Early Childhood Credential First Aid/ CPR/AED ServSafe® Food Handler Advanced Child Care Training	Child Development Associate Credential Early Childhood Education Assessment/ Certification SC 15 Hour Health and Safety Pre-Service Certificate ParaPro Assessment -Praxis Core	Praxis Core	Praxis Core
1. Early Childhood Education	Child Development 1 or Introduction to Early Childhood	Early Childhood Education 1	Early Childhood Education 2	Teacher Cadet 1: Experiencing Education
Certifications	ARC Babysitting** Teen Babysitting	SC Early Childhood Credential First Aid/ CPR/AED ServSafe® Food Handler Advanced Child Care Training	Child Development Associate Credential Early Childhood Education Assessment/ Certification SC 15 Hour Health and Safety Pre-Service Certificate ParaPro Assessment -Praxis Core	Praxis Core

SREB


\*PE—Precision Exams

\*\*ARC—American Red Cross

SREB—South Carolina Credentials of Value

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Education and Training Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
2. Introduction to Teaching	Child Development 1 or Introduction to Early Childhood	Introduction to Teaching 1	Introduction to Teaching 2	Teacher Cadet 1: Experiencing Education
Certifications	ARC Babysitting** Teen Babysitting	First Aid/ CPR/AED	Education Fundamentals Assessment/ Certificate ParaPro Assessment -Praxis Core	Praxis Core
2. Introduction to Teaching	Introduction to Teaching 1	Introduction to Teaching 2	Teacher Cadet 1: Experiencing Education	Teacher Cadet 2: Ed Psychology
Certifications	First Aid/ CPR/AED	Education Fundamentals Assessment/ Certificate ParaPro Assessment -Praxis Core	Praxis Core	Praxis Core


 \*PE—Precision Exams      \*\*ARC—American Red Cross      [SREB—South Carolina Credentials of Value](#)      31

Education and Training Occupations and Opportunities for Advanced Training		
Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Master's and Advanced Degree	Credential (C) and Associates (A) Programs
Self-Enrichment Teachers—\$44,300 Library Technicians—\$34,500 Teaching Assistants—\$27,500 Preschool Teachers—\$31,000	Elementary and Secondary Administrators—\$91,500 Postsecondary Administrators—\$110,100 Guidance and Career Counselors—\$53,400 Postsecondary Art, Drama and Music Teachers—\$73,900 Librarians and Media Specialists—\$60,300 Instructional Coordinators—\$64,500 Postsecondary Business Teachers—\$92,000 Postsecondary Health Specialties Teachers—\$68,100 Postsecondary Nursing Teachers—\$77,700 Postsecondary Education Teachers—\$60,600 Postsecondary English Language and Literature Teachers—\$68,300 Postsecondary Teachers (All Others)—\$71,500	<ul style="list-style-type: none"> <li>• Early Childhood Development -C</li> <li>• Childcare Management -C</li> <li>• Infant and Toddler -C</li> <li>• Child Care Assistant -C</li> <li>• Early Care and Education -A</li> <li>• Teacher Education -A</li> </ul>
Opportunities for Those Holding a Bachelor's Degree		Bachelor's Degree Programs
Education and Childcare Administrators—\$46,700 Postsecondary CTE Teachers—\$48,500 Kindergarten Teachers—\$47,900 Elementary School Teachers—\$53,000 Middle School Teachers—\$54,000 Secondary Teachers—\$54,000 Secondary CTE Teachers—\$56,600 Elementary SPED Teachers—\$53,100 Middle School SPED Teachers—\$55,200 Secondary SPED Teachers—\$43,000 Secondary ELL Instructors—\$54,700 Tutors, Teachers and Instructors—\$60,600 Coaches and Scouts—\$56,500 Interpreters and Translators—\$48,300		<ul style="list-style-type: none"> <li>• Early Childhood Education</li> <li>• Elementary Education</li> <li>• Middle Grades Education</li> <li>• Secondary Education</li> <li>• Counselor Education</li> <li>• Special Education</li> <li>• Educational Leadership</li> <li>• Athletic Leadership</li> </ul>


 Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.      [SREB—South Carolina Credentials of Value](#)      32

## Appendix C—Occupational Gap Summaries by Career Cluster Area

The tables provided in this appendix provide a sample of the certification gap data for occupations within each of the Career Cluster Areas that were analyzed this spring. 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 third quarter of 2021. 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 hosted during the months of March, April and May of 2022.

### High-Value (Most Requested) Credentials for the Education and Training Career Cluster

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
<b>Child Development Associate (CDA)</b>	68	80
Strength and Conditioning Coach Certified (SCCC)	0	9
Registered Nurse (RN)	24	31
Certified Strength and Conditioning Specialist (CSCS)	5	11
Registered Medical Assistant	0	6
Medical Assistant Certification (MA)	1	6
Commercial Driver's License (CDL)	15	20
<b>Basic Life Support (BLS)</b>	9	14
Licensed Professional Counselor (LPC)	4	8
Licensed Practical Nurse (LPN)	2	5

### High-Value (Most Requested) Credentials for the Hospitality and Tourism Career Cluster

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Commercial Driver's License (CDL)	123	161
Certified Public Accountant (CPA)	94	117
Certified Pesticide Applicator	3	23
Certified Payroll Professional (CPP)	11	29
Registered Nurse (RN)	50	66
Certified Professional Biller (CPB)	0	16
Professional in Human Resources (PHR)	32	46
<b>Food Safety Manager Certification</b>	1	14
HAZMAT	16	27
Certified Information Systems Auditor (CISA)	5	13



**High-Value (Most Requested) Credentials for the  
Human Services Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
Licensed Clinical Social Worker (LCSW)	94	131
Group Exercise Instructor	12	31
Accredited Case Manager (ACM)	2	14
Certified Rehabilitation Counselor (CRC)	13	25
Academy of Certified Social Workers Credential (ACSW)	0	12
Board Certified Behavior Analyst (BCBA)	12	21
<b>First Aid Certification</b>	183	189
Certified Case Manager (CCM)	11	15
Licensed Practical Nurse (LPN)	4	7
Certified Health Education Specialist (CHES)	8	11

**High-Value (Most Requested) Credentials for the  
Agriculture, Food and Natural Resources Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
Commercial Driver's License (CDL)	81	140
Class B Commercial Driver's License (CDL-B)	21	46
Laboratory Animal Technician (LAT)	0	20
Class A Commercial Driver's License (CDL-A)	60	80
Certified Hazardous Materials Manager (CHMM)	0	1
Transportation Worker Identification Credential (TWIC)	1	2
<b>OSHA 10</b>	3	4
Certified Arborist	8	9
Certified Clinical Research Associate (CCRA)	0	1
Certified Crop Advisor (CCA)	1	1

**High-Value (Most Requested) Credentials for the  
Government and Public Administration Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
Commercial Driver's License (CDL)	4	64
Certified Regulatory Compliance Manager (CRCM)	0	16
Certified Internal Auditor (CIA)	0	11
Certified Planner (AICP)	0	6
Registered Nurse (RN)	1	4
Certified Residential Appraiser	1	4
Certified Building Official	0	3
Licensed Practical Nurse (LPN)	0	3
Medicolegal Death Investigator (MDI)	0	2
Series 63	0	2

**High-Value (Most Requested) Credentials for the  
Law, Public Safety, Corrections and Security Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
<b>First Aid Certification</b>	248	350
<b>Certification in Cardiopulmonary Resuscitation (CPR)</b>	348	449
Emergency Medical Technician - Basic (EMT-B)	66	128
Emergency Medical Technician - Paramedic (EMT-P)	15	66
Commercial Driver's License (CDL)	23	41
<b>Emergency Medical Technician (EMT)</b>	167	185
Notary Public	13	29
<b>The American Red Cross Certification</b>	37	53
Emergency Medical Dispatcher Certification (EMD)	7	18
Advanced Emergency Medical Technician (AEMT)	2	9

**High-Value (Most Requested) Credentials for the  
Science, Technology, Engineering and Mathematics (STEM) Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
Engineer in Training (EIT)	29	43
Certified Maintenance & Reliability Professional (CMRP)	0	5
<b>Certification in Cardiopulmonary Resuscitation (CPR)</b>	5	7
LEED Accredited Professional (not specified)	0	2
Professional Wetland Scientist (PWS)	0	2
Six Sigma Green Belt Certification (SSGB)	9	11
Certified Safety Professional (CSP)	2	4
OSHA 30	2	3
<b>Oracle Certified</b>	0	1
Certified Construction Manager (CCM)	0	1

**High-Value (Most Requested) Credentials for the  
Marketing, Sales and Service Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
Certified Apartment Manager (CAM)	6	13
Chartered Financial Analyst (CFA)	0	8
<b>Cisco Certified Network Associate (CCNA)</b>	1	8
Accredited Residential Manager (ARM)	3	10
Cisco Certified Network Professional (CCNP)	3	8
Cisco Certified Design Associate (CCDA)	1	6
Certified Technology Specialist (CTS)	0	4
Certified Commercial Investment Member (CCIM)	1	5
Certified Manager of Community Associations (CMCA)	1	4
DOT Medical Card	0	3

**High-Value (Most Requested) Credentials for the  
Arts, AV Technology and Communications Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
<b>Cisco Certified Network Associate (CCNA)</b>	4	8
Commercial Driver's License (CDL)	0	4
<b>Google AdWords Certification</b>	0	2
Google Analytics Individual Qualification (Google Analytics IQ)	0	2
<b>OSHA 10</b>	4	5
AED Essentials	0	1
<b>CompTIA A+ Certification (A+ Certification)</b>	1	0
Certified Alarm Technician	1	0
<b>Certification in Cardiopulmonary Resuscitation (CPR)</b>	5	4
Certified Technology Specialist (CTS)	11	11

**High-Value (Most Requested) Credentials for the  
Finance Career Cluster**

<b>High-Value (Most Requested) Credentials</b>	<b>Number of Candidates</b>	<b>Number of Postings</b>
Certified Public Accountant (CPA)	458	546
Certified Financial Planner (CFP)	46	64
Chartered Financial Analyst (CFA)	9	23
Series 66 - Uniform Combined State Law (Series 66)	12	24
Chartered Retirement Planning Counselor (CRCP)	1	9
Certified Information Systems Auditor (CISA)	27	34
Certified Trust and Financial Advisor (CTFA)	5	12
Series 63	87	93
Personal Financial Specialist (PFS)	4	9
Project Management Professional (PMP)	8	12

Additional data can be viewed by accessing the artifacts from each of the Shareholder Feedback Sessions. The 2022 Shareholder Feedback Sessions provided an opportunity for shareholders to review data and information from the Career Clusters that were not addressed in the Spring of 2021. Career Cluster Areas were grouped according to the table below. The links provided in the table below provide access to the Action Agenda and all related artifacts for each session.

<b>Group 1</b>	<b>Group 2</b>	<b>Group 3</b>
<ul style="list-style-type: none"> <li>• Education and Training Careers</li> <li>• Hospitality and Tourism</li> <li>• Human Services</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural Education</li> <li>• Government and Public Administration</li> <li>• Law, Public Safety, Corrections and Security</li> <li>• STEM</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing</li> <li>• Arts, AV Technology and Communication</li> <li>• Finance</li> </ul>
<p><b>February 15, 2022</b>  <b>11am - 12:30pm</b>            Session 1: Feedback Session for Directors of CTE Programs  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-2-15">https://tinyurl.com/SREB-SC-2-15</a></p>	<p><b>April 19, 2022</b>  <b>11am - 12:30pm</b>            Session 4: Feedback Session for Directors of CTE Programs  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-4-19">https://tinyurl.com/SREB-SC-4-19</a></p>	<p><b>May 17, 2022</b>  <b>11am - 12:30pm</b>            Session 7: Feedback Session for Directors of CTE Programs  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-5-17-2022">https://tinyurl.com/SREB-SC-5-17-2022</a></p>
<p><b>February 25, 2022</b>  <b>11am - 12:30pm</b>            Session 2: Feedback Session for Postsecondary Partners and Other Educators  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-2-25">https://tinyurl.com/SREB-SC-2-25</a></p>	<p><b>April 21, 2022</b>  <b>11am - 12:30pm</b>            Session 5: Feedback Session for Postsecondary Partners and Other Educators  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-4-21">https://tinyurl.com/SREB-SC-4-21</a></p>	<p><b>May 18, 2022</b>  <b>11am - 12:30pm</b>            Session 8: Feedback Session for Postsecondary Partners and Other Educators  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-5-18-2022">https://tinyurl.com/SREB-SC-5-18-2022</a></p>
<p><b>March 1, 2022</b>  <b>4:30 - 6:00pm</b>            Session 3: Feedback Session for Business and Industry Partners and EOC Members  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-3-1">https://tinyurl.com/SREB-SC-3-1</a></p>	<p><b>April 26, 2022</b>  <b>4:30 - 6:00pm</b>            Session 6: Feedback Session for Business and Industry Partners and EOC Members  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-4-26-22">https://tinyurl.com/SREB-SC-4-26-22</a></p>	<p><b>May 19, 2022</b>  <b>4:30 - 6:00pm</b>            Session 9: Feedback Session for Business and Industry Partners and EOC Members  <b>Action Agenda Link:</b>  <a href="https://tinyurl.com/SREB-SC-5-19-2022">https://tinyurl.com/SREB-SC-5-19-2022</a></p>

## Appendix D—Communicating Course Sequences and Related Credentials

Throughout the spring, Builders’ Sessions were hosted to engage shareholders in discussions to highlight secondary course sequences, commonly earned credentials for each program area and postsecondary training opportunities. Each Builders’ Session focused on one career cluster and provided CTE teachers, CTE administrators, postsecondary instructors, postsecondary leaders and industry representatives an opportunity to review secondary and postsecondary training opportunities and the available credentials associated with each.

The discussions and feedback provided within these Builders’ Sessions served as the foundation for the pathway tables (visuals) that have been provided in Appendix B. Additional data can be viewed by accessing the artifacts from each of the Builders’ Session. Links below provide access to the Action Agenda and all related artifacts for each session.

Group 1	Group 2	Group 3
<b>March 7, 2022</b> <b>3:30 - 4:30pm</b> Builders’ Session—Education and Training Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-3-7-2022">https://tinyurl.com/SREB-SC-3-7-2022</a>	<b>April 28, 2022</b> <b>3:30 - 4:30pm</b> Builders’ Session—Agriculture Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-4-28-2022">https://tinyurl.com/SREB-SC-4-28-2022</a>	<b>May 23, 2022</b> <b>3:30 - 4:30pm</b> Builders’ Session—Marketing Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-5-23-2022">https://tinyurl.com/SREB-SC-5-23-2022</a>
<b>March 15, 2022</b> <b>3:30 - 4:30pm</b> Builders’ Session—Hospitality and Tourism Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-3-15">https://tinyurl.com/SREB-SC-3-15</a>	<b>May 3, 2022</b> <b>3:30 - 4:30pm</b> Builders’ Session—Government & Public Administration Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-5-3-2022">https://tinyurl.com/SREB-SC-5-3-2022</a>	<b>May 24, 2022</b> <b>3:30 - 4:30pm</b> Builders’ Session—Arts, AV Technology and Communication Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-5-24-2022">https://tinyurl.com/SREB-SC-5-24-2022</a>
<b>March 17, 2022</b> <b>3:30 - 4:30pm</b> Builder’s Session—Human Services Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-3-17">https://tinyurl.com/SREB-SC-3-17</a>	<b>May 5, 2022</b> <b>3:30 - 4:30pm</b> Builder’s Session— Law, Public Safety, Corrections and Security Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-5-5-2022">https://tinyurl.com/SREB-SC-5-5-2022</a>	<b>May 25, 2022</b> <b>3:30 - 4:30pm</b> Builder’s Session—Finance Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-5-25-2022">https://tinyurl.com/SREB-SC-5-25-2022</a>
	<b>May 10, 2022</b> <b>3:30 - 4:30pm</b> Builder’s Session—STEM Career Cluster <b>Action Agenda Link:</b> <a href="https://tinyurl.com/SREB-SC-5-10-2022">https://tinyurl.com/SREB-SC-5-10-2022</a>	

## **Appendix E—2021 South Carolina Program Credentials Report**

[2021 Report Link](#)

SREB

# South Carolina's CTE Career Cluster Sequences and Related Certifications

*Foundational Resources to Support the Creation of  
Local or Regional Visuals to Communicate  
Programs of Study*

June 30, 2022



# Career Cluster Resources

Spring 2021	February-March 2022	April-May 2022	May 2022
<ul style="list-style-type: none"><li>• Business Services</li><li>• IT Services</li><li>• Health Care</li><li>• Transportation, Logistics and Wholesale Trade</li><li>• Construction</li><li>• Diversified Manufacturing</li></ul>	<ul style="list-style-type: none"><li>• Education and Training Careers</li><li>• Hospitality and Tourism</li><li>• Human Services</li></ul>	<ul style="list-style-type: none"><li>• Agricultural Education</li><li>• Government and Public Administration</li><li>• Law, Public Safety, Corrections and Security</li><li>• STEM</li></ul>	<ul style="list-style-type: none"><li>• Marketing, Sales and Service</li><li>• Arts, AV Technology and Communication</li><li>• Finance</li></ul>

The following slides communicate common course sequences of career pathways as they relate to each of the career clusters listed above. The course sequences and related credentials were developed for the Builders' Sessions that were held in the Spring of 2022. The first slide(s) for each career cluster provide common course sequences and related certifications, and the final slide provides current in-demand occupations and postsecondary opportunities for the career cluster. The information and data represented on these slides reflect overall information for the state of South Carolina. As local districts or regions work to create visuals based on these resources, local course sequencing and labor market data should be highlighted.

## Business Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Administrative Services</b>	<b>Digital Workplace Applications Fundamentals of Business, Finance and Marketing</b>	<b>Business Data Applications</b>	<b>Administrative Support Technology</b>	<b>Work Based Learning</b>
<b>Certifications</b>	Microsoft Office (2016 or 2019) Associate; Expert –Word and PPT Digital Literacy and Wellness PE: Exploring Business & Marketing PE: Digital Business Applications	MOS Expert –Excel + Access CIW Data Analyst	Express Employment Professionals Business Office Technology PE: Business Communications I CTECS: Administrative Services	PMI Project Management Ready--Added March 2021
<b>2. Business Information Management</b>	<b>Fundamentals of Computing Google Applications Digital Workplace Applications Fundamentals of Business, Finance and Marketing</b>	<b>Image Editing Digital Publication Design</b>		<b>Work Based Learning</b>
<b>Certifications</b>	IC 3 (Internet and Computer Core Certification) Microsoft Office (2016 or 2019) Associate; Expert –Word and PPT Digital Literacy and Wellness MOS Expert –Excel + Access CIW Data Analyst Microsoft Digital Literacy Certification PE: Exploring Business & Marketing PE: Digital Business Applications	TOSA DigiComp®--Added March 2021 TOSA Illustrator®--Added March 2021 TOSA® InDesign--Added March 2021 TOSA® Photoshop --Added March 2021 Adobe-Photoshop, InDesign or Illustrator CTECS: Business Information Management PE: Desktop Publishing I PE: Desktop Publishing II		PMI Project Management Ready--Added March 2021

## Business Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
3. General Management	Google Applications Digital Workplace Applications Fundamentals of Business, Finance and Marketing	Accounting 1	Entrepreneurship	
Certifications	IC 3 (Internet and Computer Core Certification) Microsoft Office (2016 or 2019) Associate; Expert –Word and PPT Digital Literacy and Wellness MOS Expert –Excel + Access CIW Data Analyst Microsoft Digital Literacy Certification PE: Exploring Business & Marketing PE: Digital Business Applications	QuickBooks Certified User PE: Accounting I PE: General Financial Literacy	PE: Business Management Entrepreneurship and Small Business Certification CTECS: General Management	PMI Project Management Ready--Added March 2021

## Business Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>4. Human Resources Management</b>	<b>Digital Workplace Applications</b> <b>Fundamentals of Business, Finance and Marketing</b>	<b>Fundamentals of Human Resources Management</b> <b>Personal Finance</b>	<b>Business Law</b> <b>Professional and Leadership Development</b>	<b>Work Based Learning</b>
<b>Certifications</b>	Microsoft Office (2016 or 2019) Associate; Expert –Word and PPT Digital Literacy and Wellness PE: Exploring Business & Marketing PE: Digital Business Applications Microsoft Digital Literacy Certification	PE: Personal Financial Responsibility Precision Exams: General Financial Literacy	CTECS: Human Resource Management PE: Leadership Principles I	PMI Project Management Ready--Added March 2021
<b>5. Operations Management</b>	<b>Virtual Enterprise I</b> <b>Fundamentals of Business, Finance and Marketing</b>	<b>Virtual Enterprise 2</b> <b>Accounting 1</b>	<b>Virtual Enterprise 3</b>	<b>Virtual Enterprise 4</b> <b>Work Based Learning</b>
<b>Certifications</b>	PE: Exploring Business & Marketing PE: General Financial Literacy PE: Exploring Business & Marketing PE: Digital Business Applications	PE: Business Management PE: Accounting I	CTECS: Operations Management Entrepreneurship and Small Business Certification Microsoft 365 Certified TEAMS Administrator Associate	PMI Project Management Ready--Added March 2021

Business Services Occupations and Opportunities for Advanced Training		
Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Bachelor’s Degree	Credential (C) and Associates (A) Programs
Stockers and Order Fillers--\$24,800 Office Clerks, General--\$27,500 Secretaries and Administrative Assistants--\$36,100 Bookkeeping, Accounting and Auditing Clerks--\$36,200 Receptionists and Information Clerks--\$28,100 Shipping, Receiving and Inventory Clerks--\$33,700 Billing and Posting Clerks--\$35,000 Postal Service Mail Carriers-\$46,900 Data Entry Keyers--\$29,700 Switchboard Operators, Including Answering Service--\$29,100	Management Analysts--\$72,600 Human Resource Specialists--\$55,600 Personal Service Managers (All Others Except Gambling)--\$104,300 Project Management Specialists and Business Operations Specialists--\$67,300 Computer and Information Systems Managers--\$121,600 Chief Executives--\$170,200 Meeting, Convention and Event Planners--\$40,600 Human Resource Managers--\$99,400 Compensation, Benefits and Job Analysis Specialists--\$46,900 Operations Research Analysts--\$77,300	<ul style="list-style-type: none"><li>Accounting –A/C</li><li>Management -A</li><li>Administrative Office Technology -A</li><li>Business Administration -A</li><li>Administrative Support –Diploma Program</li><li>Bookkeeping –C</li><li>Business Systems-C</li><li>Data Analytics –A</li><li>Small Business Management-C</li><li>Information Processing-C</li><li>Basic Business-C</li><li>Medical Office Assistant-C</li></ul>
Opportunities for Those Holding a Postsecondary Certificate or an Associates Degree		Bachelor’s Degree Programs
Secretaries and Administrative Assistants--\$36,100 First-Line Supervisors of Office and Administrative Support Workers--\$49,200 Receptionists and Information Clerks--\$28,100 Billing and Posting Clerks--\$35,000 Executive Secretaries and Executive Administrative Assistants--\$56,600 Interviewers, Except Eligibility and Loan--\$31,100 Payroll and Timekeeping Clerks--\$33,000		<ul style="list-style-type: none"><li>Business Administration and Management</li><li>Finance</li><li>Political Science and Government</li><li>Management Science</li><li>Economics</li><li>International Business/Trade/Commerce</li><li>Business/Commerce</li><li>International Relations and Affairs</li></ul>
Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.		

# Information Technology Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Game and Interactive Media Design</b>	<b>Fundamentals of Computing Entrepreneurship</b>	<b>Foundations of Animation</b>	<b>Game Design and Development</b>	<b>Cybersecurity Fundamentals Computer Repair and Service Various Computer Programing Courses *Various Approved Dual Enrollment Courses</b>
<b>Certifications</b>	IC3	ACE – Web Communications with Animate CC Autodesk User Certification for Maya	PE: Computer Programming II C#, C++, Java, Python or PL/SQL PCEP-Certified Entry-Level Python Programmer, Certified Professional in Python Programming 1 and 2 or Level 1 Certified OCPJP: Oracle Certified Professional, Java SE8/SE 7 Programmer CASP: CompTIAAdvanced Security Practitioner	
<b>2. Information Support and Services</b>	<b>IT Fundamentals</b>	<b>Computer Repair and Service</b>	<b>Advanced Computer Repair and Service</b>	<b>Networking Fundamentals Advanced Networking *Various Approved Dual Enrollment Courses</b>
<b>Certifications</b>	CompTIA IT Fundamentals	CompTIAA+ TestOut PC Pro Certification TestOut Client Pro Certification Computer Service Technician Certificate – CST CTECS: Information Support and Services Dell Client Foundation and Enterprise Self-Dispatch Certification		Cisco Certified Entry Networking Technician Cisco Certified Network Associate CompTIA Network+ CTECS: Networking Systems Network Computer Technician Certification – NCT Network Systems Technician Certification – NST

# Information Technology Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>3. Computer and Information Systems Security/Information Assurance</b>	<b>Fundamentals of Computing IT Fundamentals</b>	<b>Cyber Security Fundamentals</b>	<b>Advanced Cyber Security</b>	<b>Server Administration Advanced Server Administration Computer Forensics *Various Approved Dual Enrollment Courses</b>
<b>Certifications</b>	IC3 CompTIA IT Fundamentals	CompTIA CySA+: Cybersecurity Analyst CompTIA PenTest+ CompTIA Project+ CompTIA Security+ Certification TestOut Security Pro Certification Systems Security Certified Practitioner – SSCP from (ISC) <sup>2</sup> ® GCIH: GIAC Certified Incident Handler GISP: GIAC Information Security Professional GSEC: GIAC Security Essentials		CEH: Certified Ethical Hacker CHFI: Computer Hacking Forensic Investigator CompTIA Linux+/LPIC-1 TestOut Server Pro 2016 Certification TestOut Windows Server Pro: Advance Services (Part 3) TestOut Windows Server Pro: Install and Configure (Part 1) TestOut Windows Server Pro: Manage and Administer (Part 2) LPIC-1 Certified Linux Administrator

Information Technology Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
4. Programming and Software Development	Fundamentals of Computing	Computer Programming 1	Computer Programming 2	Mobile Applications Development Physical Computing and Control Systems *Various Approved Dual Enrollment Courses
	Fundamentals of Computing	Computer Programming 1 with C++	Computer Programming 2 with C++	
	Fundamentals of Computing	Computer Programming 1 with Java	Computer Programming 2 with Java	
	Fundamentals of Computing	Computer Programming 1 with Visual Basic	Computer Programming 2 with Visual Basic	
	Fundamentals of Computing	Computer Programming 1 with Python	Computer Programming 2 with Python	
	Fundamentals of Computing	Computer Programming 1 with Swift	Computer Programming 2 with Swift	
	Fundamentals of Computing	Database Design and Programming with SQL	Database Programming with PL/SQL	
Certifications		PE: Computer Programming II C#, C++, Java, Python or PL/SQL PCEP-Certified Entry-Level Python Programmer, Certified Professional in Python Programming 1 and 2 or Level 1 Certified OCPJP: Oracle Certified Professional, Java SE8/SE 7 Programmer App Development with Swift Associate App Development with Swift Certified User Database Design & Programming with SQL Database Foundations Certified Junior Associate Programming with PL/SQL		
*Courses listed in Appendix Q of the SC Activity Coding System for the Student Information System 2022-23				



Information Technology Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
5. Networking Systems	IT Fundamentals	Networking Fundamentals	Advanced Networking	Server Administration Advanced Server Administration <b>*Various Approved Dual Enrollment Courses</b>
Certifications	CompTIA IT Fundamentals	Cisco Certified Entry Networking Technician Cisco Certified Network Associate CIW Network Technology Associate CompTIA Network+ CompTIA PenTest+ CTECS: Networking Systems Wireless Network Technician Certification – WNT CWNA: Certified Wireless Network Administrator CWTS: Certified Wireless Technology Specialist TestOut Network Pro Certification TestOut Routing Pro Certification TestOut Switching Pro Certification		CEH: Certified Ethical Hacker CHFI: Computer Hacking Forensic Investigator CompTIA Linux+/LPIC-1 TestOut Server Pro 2016 Certification TestOut Windows Server Pro: Advance Services (Part 3) TestOut Windows Server Pro: Install and Configure (Part 1) TestOut Windows Server Pro: Manage and Administer (Part 2) LPIC-1 Certified Linux Administrator
6. Web and Digital Communications	Fundamentals of Computing	Fundamentals of Web Page Design and Development	Advanced Web Page Design and Development	Cybersecurity Fundamentals <b>*Various Approved Dual Enrollment Courses</b>
Certifications	IC3	CIW Advanced HTML5 & CSS3 Specialist CIW Site Development Associate CIW User Interface Designer CIW Web Design Specialist CIW Web Foundations Associate CIW Web Security Associate CTECS: Web and Digital Communications Web Design Level 1 Certified Web Development Level 1 Certified		CompTIA Security+ Certification TestOut Security Pro Certification
*Courses listed in Appendix Q of the SC Activity Coding System for the Student Information System 2022-23				

# Information Technology Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates and Individuals with Some Postsecondary Training	Opportunities for Those Holding Bachelor's Degree	Credential (C) and Associates (A) Programs
Computer Network Support Specialists--\$64,800 Computer User Support Specialists--\$51,100	Computer Systems Analysts--\$84,600 Information Security Analysts--\$96,300 Computer Network Architects--\$105,500 Database Administrators--\$83,200 Database Architects--\$101,200 Network and Computer Systems Administrators--\$83,800 Computer Programmers--\$92,400 Software Developers--\$102,600 Software Quality Assurance Analysts and Testers--\$93,600 Web Developers--\$69,800	<ul style="list-style-type: none"> <li>• A+ -C</li> <li>• Net+ -C</li> <li>• Productivity Software Specialist -C</li> <li>• CISCO Networking –C</li> <li>• Web Administrator-C</li> <li>• Information Technology -A</li> <li>• Computer Technology, Cybersecurity Concentration –A</li> </ul>
		Bachelor's Degree Programs
		<ul style="list-style-type: none"> <li>• Computer Information Systems</li> <li>• Integrated Information Technology</li> <li>• Computer Engineering</li> <li>• Applied Computer Science, Cyber Security</li> </ul>

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

# Health Science Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Biomedical Sciences (Project Lead the Way)</b>	<b>PLTW-Principles of Biomedical Science</b>	<b>PLTW-Human Body Systems</b>	<b>PLTW-Medical Interventions Medical Terminology HS WBL</b>	<b>PLTW-Biomedical Innovations HS Clinical Study</b>
<b>Certifications</b>	First Aid/CPR/AED First Aid for Severe Trauma (FAST) Stop the Bleed	Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals	Biotechnician Assistant Credentialing Exam (BACE) Related PE Exam(s)	BLS Healthcare Providers CPR
<b>2. Emergency Medical Services (EMS)</b>	<b>Emergency Medical Services 1</b>	<b>Emergency Medical Services 2</b>	<b>Work Based Learning HS Human Structure Function and Disease Medical Terminology</b>	<b>Emergency Medical Services 3 HS Clinical Study</b>
<b>Certifications</b>	First Aid/CPR/AED Sudden Cardiac Arrest First Aid for Severe Trauma (FAST) Stop the Bleed	First Responder BLS Sudden Cardiac Arrest OR Related PE Exam Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals	National Health Science Assessment Related PE Exam	Emergency Medical Technician National Health Science Assessment BLS Healthcare Providers CPR EKG Technician

# Health Science Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
3. Health Science	Health Science 1-Foundationf of Healthcare Professionals	Health Science 2- Advanced Healthcare Applications	Health Science-Human Structure, Function and Disease Work Based Learning Intro to Vet Science Intro to Behavioral Health	Health Science Clinical Study
Certifications	First Aid First Aid/CPR/AED Sudden Cardiac Arrest First Aid for Severe Trauma (FAST) Stop the Bleed	BLS OSHA Paid Feeding Assistant Sudden Cardiac Arrest CERT Community Emergency Response Team Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals OR Related PE Exam	Related PE Exam National Health Science Assessment	National Health Science Assessment Certified Clinical Medical Assistant Certified Electronic Health Records Specialist Certified Medical Administrative Assistant Certified Medical Billing and Coding Specialist Certified Nurse Aide Certified Patient Care Technician (CPCT) Direct Support Professional Electrocardiographic (EKG) Technician Pharmacy Technician Phlebotomist BLS Healthcare Providers CPR

# Health Science Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
4. Practical Nursing	Health Science 1-Foundations of Healthcare Professionals	Health Science 2-Advanced Healthcare Applications	Health Science –Human Structure, Function and Disease Medical Terminology	LPN –Phase 1
Certifications	First Aid First Aid/CPR/AED Sudden Cardiac Arrest First Aid for Severe Trauma (FAST) Stop the Bleed	BLS OSHA Paid Feeding Assistant Sudden Cardiac Arrest Community Emergency Response Team Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals OR Related PE Exam	National Health Science Assessment Related PE Exam	BLS Healthcare Providers CPR
4. Practical Nursing	Emergency Medical Services 1	Emergency Medical Services 2	Health Science –Human Structure, Function and Disease Medical Terminology	LPN –Phase 1
Certifications	First Aid/CPR/AED Sudden Cardiac Arrest First Aid for Severe Trauma (FAST) Stop the Bleed	First Responder BLS Sudden Cardiac Arrest OR Related PE Exam Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals OSHA	National Health Science Assessment Related PE Exam -	BLS Healthcare Providers CPR

## Health Science Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
4. Practical Nursing (Cont.)	Sports Medicine 1	Sports Medicine 2	Health Science –Human Structure, Function and Disease Medical Terminology	LPN –Phase 1
Certifications	First Aid First Aid/CPR/AED Sudden Cardiac Arrest Heads Up: Concussion in Youth Sports Heat Illness Prevention First Aid for Severe Trauma (FAST)	Sports Nutrition Healthcare Providers Basic Life Support (BLS) Stop the Bleed Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals OSHA	National Health Science Assessment Related PE Exams	BLS Healthcare Providers CPR
4. Practical Nursing	Principles of Biomedical Sciences	Human Body Systems	Health Science –Human Structure, Function and Disease Medical Terminology Medical Innovations	LPN –Phase 1
Certifications	First Aid/CPR/AED First Aid for Severe Trauma (FAST) Stop the Bleed	Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals BLS Healthcare Providers Basic Life support	National Health Science Assessment	BLS Healthcare Providers CPR

	Health Science Career Cluster Pathways				
	Program Name	Course 1	Course 2	Course 3	Course 4
	5. Sports Medicine	Sports Medicine 1	Sports Medicine 2	Health Science-Human Structure, Function and Disease Medical Terminology Sports Nutrition	Sports Medicine 3 Work Based Learning
	Certifications	First Aid First Aid/CPR/AED Sudden Cardiac Arrest Heads Up: Concussion in Youth Sports Heat Illness Prevention First Aid for Severe Trauma (FAST)	Sports Nutrition Healthcare Providers Basic Life Support (BLS) Stop the Bleed Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals CERT Community Emergency Response Team	Sports Nutrition National Health Science Assessment Related PE Exam	Certified Personal Trainer Physical Therapy Aide Precision Exams: Exercise Science and Sports Medicine BLS Healthcare Providers CPR
	6. Public Health	Health Science 1	Foundations of Public Health	Advanced Principles of Public Health	Public Health Capstone
	Certifications	First Aid First Aid/CPR/AED Sudden Cardiac Arrest First Aid for Severe Trauma (FAST) Stop the Bleed	Community Emergency Response Team BLS Healthcare Providers Basic Life support FAST Stop the Bleed HIPAA Related FEMA Certifications (100, 200, 700) Health Insurance Portability and Accountability Act –HIPAA Awareness Training for Healthcare Professionals	Healthcare Providers Basic Life Support (BLS) FEMA OSHA Related FEMA Certifications (800)	Protecting Human Rights. BLS Healthcare Providers CPR
*PE—Precision Exams					

Health Careers Occupations and Opportunities for Advanced Training

Occupations by Level of Training

Opportunities for Postsecondary Training

Opportunities for High School Graduates

Opportunities for Those Holding a Postsecondary Non-Degree or Associates Degree

Credential (C) and Associates (A) Programs

Nursing Assistants--\$25,600  
Healthcare Support Workers, All Other--\$41,600  
Medical Secretaries and Administrative Assistants--\$34,300  
Veterinary Assistants and Laboratory Animal Caretakers--\$27,500  
Medical Transcriptionists--\$35,600  
Pharmacy Technicians--\$31,700  
Phlebotomists--\$32,500  
Medical Assistants \$31,800

Licensed Practical and Licensed Vocational Nurses--\$42,800  
Dental Assistants--\$38,700  
Medical and Clinical Laboratory Technicians--\$48,700  
Medical and Clinical Laboratory Technologists--\$48,700  
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other--\$38,500  
Dental Hygienists--\$62,500  
Physical Therapy Assistant --\$50,000  
Occupational Therapy Assistant--\$50,000

- Medical Coding and Billing-C
- Phlebotomy Technician-C
- Dental Hygiene-A
- Health Information Management-A
- Medical Laboratory Technology-A
- Nursing-PLN Transition-A
- Physical Therapist Assistant-A
- Radiologic Technology-A
- Respiratory Care-A
- Surgical Technology-A

Opportunities for Those Holding a Bachelor’s or Advanced Degree

Bachelor’s Degree Programs

Registered Nurses--\$63,800  
Medical and Clinical Laboratory Technicians--\$48,700  
Medical and Clinical Laboratory Technologists--\$48,700 (1,742)  
Occupational Therapists--\$77,500  
Medical and Health Services Managers--\$90,800  
Physical Therapists--\$87,700

- Registered Nursing/Registered Nurse
- Kinesiology and Exercise Science
- Bioengineering and Biomedical Engineering
- Health/Health Care Administration/Management
- Biochemistry
- Pharmacy, Pharmaceutical Sciences, and Administration
- Dietetics/Dietitian
- Public Health

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.



# Transportation Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Automotive Collision Repair Technology</b>	<b>Automotive Collision Repair Technology 1</b>	<b>Automotive Collision Repair Technology 2</b>	<b>Automotive Collision Repair Technology 3</b>	<b>Automotive Collision Repair Technology 4</b>
<b>Certifications</b>	ASE: Auto Collision Repair – Painting and Refinishing I-CAR Bolt-on–Exterior Panel Part 1 (EXT03e) I-CAR Bolt-on–Exterior Panel Part 2 (EXT04e) I-CAR Intro to Repair Process (IRP00e) I-CAR Intro to Repair Terminology (IRT00e) I-CAR Intro to Safety Systems (ISS00e) I-CAR Intro to Tools, Equipment and Attachment Methods Part 1 (ITM01e) I-CAR Intro to Tools, Equipment and Attachment Methods Part 2 (ITM02e) I-CAR Intro to Vehicle Parts Terminology Part 1 (IVT01e)	ASE: Auto Collision Repair – Non–Structural Analysis and Damage Repair I-CAR Intro to Refinishing and Corrosion Protection Part 1 (IRC01e) I-CAR Intro to Refinishing and Corrosion Protection Part 2 (IRC02e) S/P2 – Auto Collision Repair I-CAR ProLevel 1	ASE: Auto Collision Repair – Structural Analysis and Damage Repair I-CAR Refinishing Equipment (REF01e) I-CAR Removing and Installing exterior Trim, Pinstriping, and Decals (TRM03e) I-CAR Removing and Installing Interior Trim (TRM02e) I-CAR Surface Preparation and Masking (REF02e) I-CAR Waterborne Products, Systems and Applications (REF07) I-CAR ProLevel 2	ASE: Auto Collision Repair – Mechanical and Electrical Components I-CAR Intro to Mechanical Repair Terms and Vehicle Protection (IMV00e) I-CAR Intro to Mechanical System Terminology Part 1 (IMT01e) I-CAR Intro to Mechanical System Terminology Part 2 (IMT02e) I-CAR ProLevel 3

# Transportation Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>2. Automotive Technology</b>	<b>Automotive Technology 1</b>	<b>Automotive Technology 2</b>	<b>Automotive Technology 3</b>	<b>Automotive Technology 4</b>
<b>Certifications</b>	ASE: Student Certification – Brakes ASE: Auto Technology – Engine Repair S/P2 – Auto Technology S/P2 Ethics and You in the Automotive Industry	ASE: Auto Technology – Engine Performance ASE: Auto Technology – Maintenance & Light Repair Snap-on/NC3: ShopKey Pro Service & Repair Information Level 1 Snap-on/NC3: 504 Multimeter Certification	ASE: Auto Technology – Electrical/Electronic Systems ASE: Auto Technology – Heating & Air Conditioning ASE: Auto Technology – Suspension & Steering Snap-on/NC3: ShopKey Pro & SureTrack Advanced Level 2	ASE: Auto Maintenance and Light Repair Certification Test (G1) Snap-on/NC3: Verus Edge Lab Scope Operation & Data Management Snap-on/NC3: Verus Edge Navigation & Scanner Operation
<b>3. Diesel Engine Technology</b>	<b>Diesel Engine Technology 1</b>	<b>Diesel Engine Technology 2</b>	<b>Diesel Engine Technology 3</b>	<b>Diesel Engine Technology 4</b>
<b>Certifications</b>	ASE: Student Certification – Brakes ASE: Diesel Technology – Engine Repair ASE Medium/Heavy Duty Diesel Engine	ASE: Diesel Technology – Engine Performance ASE: Diesel Technology – Maintenance & Light Repair S/P2 – Heavy-Duty Diesel Safety and Pollution	ASE: Diesel Technology – Electrical/Electronic Systems ASE: Diesel Technology – Heating & Air Conditioning ASE: Diesel Technology – Suspension & Steering Snap-on/NC3: ShopKey Pro & SureTrack Advanced Level 2	ASE: Diesel Maintenance and Light Repair Certification Test (G1) Snap-on/NC3: Verus Edge Lab Scope Operation & Data Management Snap-on/NC3: Verus Edge Navigation & Scanner Operation ASE: Medium–Heavy Truck Certification Tests (T Series)

## Transportation Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>4. Global Logistics &amp; Supply Chain Management</b>	<b>Introduction to Logistics – Course 1</b>	<b>Functional Areas in Logistics – Course 2</b>	<b>Global Logistics Management – Course 3</b>	<b>Logistics and Supply Chain Management – Course 4</b>
<b>Certifications</b>	LEAN (Six Sigma) Manufacturing Certification		Forklift Operator	
<b>5. Power Equipment Technology</b>	<b>Power Equipment Technology 1</b>	<b>Power Equipment Technology 2</b>	<b>Power Equipment Technology 3</b>	<b>Power Equipment Technology 4</b>
<b>Certifications</b>	Yamaha Certification Briggs & Stratton Master Service Technician Certification S/P2	Yamaha Certification Briggs & Stratton Master Service Technician Certification S/P2	Yamaha Certification South Carolina Boater Education Certificate Precision Exams: Small Engine Repair I	Yamaha Certification The American Boat and Yacht Council (ABYC) Precision Exams: Small Engine Repair I

# Transportation Occupations and Opportunities for Advanced Training

## Occupations by Level of Training

## Opportunities for Postsecondary Training

### Opportunities for High School Graduates

### Opportunities for Those Holding a Postsecondary Non-Degree or Associates Degree

### Credential (C) and Associates (A) Programs

Gas Compressor and Gas Pumping Station Operators--\$60,800  
Passenger Attendants--\$30,900  
Traffic Technicians--\$40,300  
Aircraft Service Attendants--\$35,000  
Railroad Conductors and Yardmasters--\$46,100  
Bus Drivers, Transit and Intercity--\$34,100  
Light Truck Drivers--\$38,200  
Flight Attendants--\$56,400  
Airfield Operations Specialists--\$44,100  
Commercial Pilots--\$86,600  
Aircraft Cargo Handling Supervisors--\$54,800  
Motorboat Mechanics and Service Technicians--\$35,100  
Automotive Body and Related Repairers--\$44,200  
Dispatchers, Except Police, Fire, and Ambulance--\$40,800  
Cargo and Freight Agents--\$43,400  
Transportation, Storage, and Distribution Managers--\$108,400  
Industrial Truck and Tractor Operators--\$36,400

Air Traffic Controllers--\$95,000  
Avionics Technicians--\$68,000  
Ship Engineers--\$96,400  
Motorboat Operators--\$40,200  
Captains, Mates, and Pilots of Water Vessels--\$70,000  
Heavy and Tractor-Trailer Truck Drivers--\$47,200  
Motorcycle Mechanics--\$35,900  
Automotive Service Technicians and Mechanics--\$41,900  
Aircraft Mechanics and Service Technicians--\$58,900  
Electrical and Electronics Installers and Repairers, Transportation Equipment--\$62,700

- Automotive Brake, Suspension and Steering Repair -C
- Automotive Drive Train Repair-C
- Automotive Electrical Systems Repair-C
- Automotive Engine Performance-C
- Automotive Engine Repair-C
- Automotive Hearing and Air Conditioning Repair-C
- Small Engine Mechanic-C
- Automotive Service Technology-A
- Automotive Technology Ford ASSET-A
- Diesel and Heavy Equipment-C

### Opportunities for Those Holding a Bachelor's or Advanced Degree

### Bachelor's Degree Programs

Logisticians--\$71,700  
Cargo and Freight Agents--\$41,100  
Transportation, Storage, and Distribution Managers--\$88,700  
Airline Pilots, Copilots, and Flight Engineers--\$110,000

- Automotive Engineering
- Logistics, Materials, and Supply Chain Management

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

# Architecture and Construction Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Building Construction Cluster</b>	<b>Building Construction Cluster 1</b>	<b>Building Construction Cluster 2</b>	<b>Building Construction Cluster 3</b>	<b>Building Construction Cluster 4</b>
<b>Certifications</b>	OSHA 10 Construction NCCER – Core	NCCER – Carpentry NCCER – Electricity NCCER – Masonry		NCCER – Plumbing NCCER – NCCT National Construction Career Test  Home Builders Association of Alabama (HBAA) Residential Construction Skills Certification (added March 22) Forklift Operator
<b>2. Cabinetmaking</b>	<b>Cabinetmaking 1</b>	<b>Cabinetmaking 2</b>	<b>Cabinetmaking 3</b>	<b>Cabinetmaking 4</b>
<b>Certifications</b>	OSHA 10 Construction NCCER – Core Precision Exams: CAD Architectural Design I			CTECS: Carpentry Forklift Operator

## Architecture and Construction Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>3. Carpentry</b>	<b>Carpentry 1</b>	<b>Carpentry 2</b>	<b>Carpentry 3</b>	<b>Carpentry 4</b>
<b>Certifications</b>	OSHA 10 Construction NCCER – Core Precision Exams: CAD Architectural Design I		Home Builders Association of Alabama (HBAA) Residential Construction Skills Certification (added March 22) NCCER – Carpentry CTECS: Carpentry Forklift Operator	
<b>4. Electrical Line Worker Technology</b>	<b>Electrical Line Worker 1</b>	<b>Electrical Line Worker 2</b>	<b>Electrical Line Worker 3</b>	<b>Electrical Line Worker 4</b>
<b>Certifications</b>	OSHA 10 Construction NCCER – Core			Forklift Operator

## Architecture and Construction Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
5. Electricity	Electricity 1	Electricity 2	Electricity 3	Electricity 4
Certifications	OSHA 10 Construction NCCER – Core			CTECS: Electricity NCCER – Electricity Forklift Operator
6. HVAC Technology	HVAC Technology 1	HVAC Technology 2	HVAC Technology 3	HVAC Technology 4
Certifications	OSHA 10 Construction NCCER – Core		Level 1: Fundamentals Electricity  CTECS: HVAC Technology EPA Section 608  NATE – Air Conditioning NATE – Air Distribution NATE – Commercial Refrigeration (Service Only) NATE – Gas Heating NATE – Ground Source Heat Pump Loop Installer (Service Only) NATE – Heat Pumps Level 1: Fundamentals Mechanical Systems Forklift Operator	

## Architecture and Construction Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
7. Masonry	Masonry 1	Masonry 2	Masonry 3	Masonry 4
Certifications	OSHA 10 Construction NCCER – Core		CTECS: Masonry NCCER – Masonry Forklift Operator	
8. Plumbing	Plumbing 1	Plumbing 2	Plumbing 3	Plumbing 4
Certifications	OSHA 10 Construction NCCER – Core		NCCER – Plumbing Forklift Operator	



Architecture and Construction Occupations and Opportunities for Advanced Training		
Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Postsecondary Non-Degree or Associates Degree	Credential (C) and Associates (A) Programs
Surveying and Mapping Technicians--\$49,800 First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers--\$53,300 First-Line Supervisors of Construction Trades and Extraction Workers--\$75,100 Boilermakers--\$69,100 Brickmasons and Blockmasons--\$61,400 Stonemasons--\$50,200 Carpenters--\$55,200 Terrazzo Workers and Finishers--\$58,400 Paving, Surfacing, and Tamping Equipment Operators--\$50,600 Pile Driver Operators--\$76,000 Operating Engineers and Other Construction Equipment Operators--\$56,300 Electricians--\$63,300 Glaziers--\$52,000 Insulation Workers, Mechanical--\$56,300 Plumbers, Pipefitters, and Steamfitters--\$63,400 Reinforcing Iron and Rebar Workers--\$59,000 Construction Laborers--\$44,100 Drywall and Ceiling Tile Installers--\$54,800 Tapers--\$65,100 Insulation Workers, Floor, Ceiling, and Wall--\$44,800 Painters, Construction and Maintenance--\$47,100 Paperhangers--\$51,600 Pipelayers--\$48,500	Opportunities for Those Holding a Bachelor's or Advanced Degree	Bachelor's Degree Programs
	Civil Engineering Technologists and Technicians--\$58,000 Architectural and Civil Drafters--\$60,600 Heating, Air Conditioning, and Refrigeration Mechanics and Installers--\$54,700	<ul style="list-style-type: none"> <li>Construction Helper-C</li> <li>Residential Carpenter-C</li> <li>Rough Carpenter-C</li> <li>Construction Technology-A</li> </ul>
	Civil Engineers--\$95,500 Architects, Except Landscape and Naval--\$91,900 Construction Managers-\$108,200 Cost Estimators-\$73,700 Landscape Architects--\$75,000 Surveyors--\$68,900	<ul style="list-style-type: none"> <li>Civil Engineering</li> <li>Construction Management</li> <li>Mechanical Engineering</li> <li>Architecture</li> <li>Materials Engineering</li> <li>Interior Design</li> <li>Landscape Architecture</li> <li>Applied Horticulture/Horticulture Operations, General</li> </ul>
Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.		

# Manufacturing Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
1. Electronics Technology	Electronics Technology 1	Electronics Technology 2	Electronics Technology 3	Electronics Technology 4
Certifications	OSHA 10 General NCCER Core		Electronics Technician Certified LabVIEW Associate Developer (CLAD)	
2. Integrated Production Technology	Advanced Technology for Design and Production – Course 1	Systems of Advanced Technology – Course 2	Mechatronic Systems for Advanced Production – Course 3	Design for the Production of Advanced Products – Course 4
Certifications	MSSC: CPT Maintenance Awareness MSSC: CPT Manufacturing Processes and Production OSHA 10 General NCCER Core		MSSC: CPT Quality Practices MSSC: CPT Safety ToolingU	
3. Machine Technology	Machine Tool Technology 1	Machine Tool Technology 2	Machine Tool Technology 3	Machine Tool Technology 4
Certifications	OSHA 10 General NCCER Core		NIMS LEAN (Six Sigma) Manufacturing Certification Forklift Operator	

# Manufacturing Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
4. Mechatronics Integrated Technologies	Mechatronics 1 – Electrical Components/Industrial Safety	Mechatronics 2 – Mechanical Components Electric Drives/Hand & Power Tool Op	Mechatronics 3	Mechatronics 4
Certifications	OSHA 10 General NCCER Core	Level 1: Fundamentals Fluid Power - Hydraulics Level 1: Fundamentals Industry 4.0 Level 1: Fundamentals Mechanical Systems ToolingU		Forklift Operator
5. Welding Technology	Welding Technology 1	Welding Technology 2	Welding Technology 3	Welding Technology 4
Certifications	OSHA 10 General or Construction NCCER Core		NCCER – Welding Technology S/P2 – Welding Safety and Pollution AWS CTECS: Welding Technology	

# Manufacturing Occupations and Opportunities for Advanced Training

## Occupations by Level of Training

## Opportunities for Postsecondary Training

### Opportunities for High School Graduates

### Opportunities for Those Holding a Postsecondary Non-Degree

### Credential (C) and Associates (A) Programs

Industrial Machinery Mechanics--\$54,500  
Security and Fire Alarm Systems Installers--\$49,400  
Woodworkers, All Other \$34,800  
Medical Appliance Technicians--\$44,900  
Dental Laboratory Technicians--\$42,200  
Molders, Shapers, and Casters, Except Metal and Plastic -- \$37,500  
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic--\$48,300  
Coin, Vending, and Amusement Machine Servicers and Repairers--\$40,300  
Maintenance Workers, Machinery--\$56,200  
Maintenance and Repair Workers, General--\$41,100  
Electrical, Electronic, and Electromechanical Equipment Assemblers, Except Coil Winders, Tapers, and Finishers--\$39,300  
Cabinetmakers and Bench Carpenters--\$38,400  
Ophthalmic Laboratory Technicians--\$36,000  
Weighers, Measurers, Checkers, and Samplers, Recordkeeping--\$42,500  
Outdoor Power Equipment and Other Small Engine Mechanics--\$36,200  
Precision Instrument and Equipment Repairers, All Other--\$52,400  
Installation, Maintenance, and Repair Workers, All Other--\$40,200  
Welders, Cutters, Solderers, and Brazers--\$43,400

Computer, Automated Teller, and Office Machine Repairers--\$41,500  
Electrical and Electronics Repairers, Commercial and Industrial Equipment--\$61,400  
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay--\$68,300  
Audiovisual Equipment Installers and Repairers -- \$37,900  
Wind Turbine Service Technicians --\$52,000  
Tool and Die Makers--\$57,100  
Computer Numerically Controlled Tool Programmers--\$61,300

- Manufacturing Technology-A
- Mechatronics/ Automation-C
- Precision Machining-C
- Metal Fabrication-C

### Opportunities for Those Holding an Associates or Bachelor's Degree

### Bachelor's Degree Programs

Purchasing Agents, Except Wholesale, Retail, and Farm Products--\$70,600  
Electrical and Electronics Drafters --\$59,600  
Mechanical Drafters --\$61,000  
Aerospace Engineering and Operations Technologists and Technicians--\$58,500  
Electrical and Electronic Engineering Technologists and Technicians--\$65,500  
Electro-Mechanical and Mechatronics Technologists and Technicians--\$52,700  
Industrial Engineering Technologists and Technicians--\$59,800  
Mechanical Engineering Technologists and Technicians--\$62,600  
Calibration Technologists and Technicians--\$65,100  
Chemical Technicians--\$48,200

- Civil Engineering
- Business Administration
- Supply Chain Management/ Logistics

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

## Education and Training Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
1. Early Childhood Education	Early Childhood Education 1	Early Childhood Education 2	Teacher Cadet 1: Experiencing Education	Teacher Cadet 2: Ed Psychology
<b>Certifications</b>	SC Early Childhood Credential First Aid/ CPR/AED ServSafe® Food Handler Advanced Child Care Training	Child Development Associate Credential Early Childhood Education Assessment/ Certification SC 15 Hour Health and Safety Pre-Service Certificate ParaPro Assessment -Praxis Core	Praxis Core	Praxis Core
1. Early Childhood Education	Child Development 1 or Introduction to Early Childhood	Early Childhood Education 1	Early Childhood Education 2	Teacher Cadet 1: Experiencing Education
<b>Certifications</b>	ARC Babysitting** Teen Babysitting	SC Early Childhood Credential First Aid/ CPR/AED ServSafe® Food Handler Advanced Child Care Training	Child Development Associate Credential Early Childhood Education Assessment/ Certification SC 15 Hour Health and Safety Pre-Service Certificate ParaPro Assessment -Praxis Core	Praxis Core

## Education and Training Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
2. Introduction to Teaching	Child Development 1 or Introduction to Early Childhood	Introduction to Teaching 1	Introduction to Teaching 2	Teacher Cadet 1: Experiencing Education
Certifications	ARC Babysitting** Teen Babysitting	First Aid/ CPR/AED	Education Fundamentals Assessment/ Certificate ParaPro Assessment -Praxis Core	Praxis Core
2. Introduction to Teaching	Introduction to Teaching 1	Introduction to Teaching 2	Teacher Cadet 1: Experiencing Education	Teacher Cadet 2: Ed Psychology
Certifications	First Aid/ CPR/AED	Education Fundamentals Assessment/ Certificate ParaPro Assessment -Praxis Core	Praxis Core	Praxis Core

# Education and Training Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Master's and Advanced Degree	Credential (C) and Associates (A) Programs
Self-Enrichment Teachers--\$44,300 Library Technicians--\$34,500 Teaching Assistants--\$27,500 Preschool Teachers--\$31,000	Elementary and Secondary Administrators--\$91,500 Postsecondary Administrators--\$110,100 Guidance and Career Counselors--\$53,400 Postsecondary Art, Drama and Music Teachers--\$73,900 Librarians and Media Specialists--\$60,300 Instructional Coordinators--\$64,500 Postsecondary Business Teachers--\$92,000 Postsecondary Health Specialties Teachers--\$68,100 Postsecondary Nursing Teachers--\$77,700 Postsecondary Education Teachers--\$60,600 Postsecondary English Language and Literature Teachers--\$68,300 Postsecondary Teachers (All Others)--\$71,500	<ul style="list-style-type: none"> <li>• Early Childhood Development -C</li> <li>• Childcare Management -C</li> <li>• Infant and Toddler -C</li> <li>• Child Care Assistant -C</li> <li>• Early Care and Education -A</li> <li>• Teacher Education -A</li> </ul>
Opportunities for Those Holding a Bachelor's Degree		Bachelor's Degree Programs
Education and Childcare Administrators--\$46,700 Postsecondary CTE Teachers--\$48,500 Kindergarten Teachers--\$47,900 Elementary School Teachers--\$53,000 Middle School Teachers--\$54,000 Secondary Teachers--\$54,000 Secondary CTE Teachers--\$56,600 Elementary SPED Teachers--\$53,100 Middle School SPED Teachers--\$55,200 Secondary SPED Teachers--\$43,000 Secondary ELL Instructors--\$54,700 Tutors, Teachers and Instructors--\$60,600 Coaches and Scouts--\$56,500 Interpreters and Translators--\$48,300		<ul style="list-style-type: none"> <li>• Early Childhood Education</li> <li>• Elementary Education</li> <li>• Middle Grades Education</li> <li>• Secondary Education</li> <li>• Counselor Education</li> <li>• Special Education</li> <li>• Educational Leadership</li> <li>• Athletic Leadership</li> </ul>

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

# Hospitality and Tourism Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
1. Culinary Arts Management	Culinary Arts Management 1	Culinary Arts Management 2	Introduction to Culinary Arts Management	Hospitality and Tourism Work-Based Credit
<b>Certifications</b>	Cooking and Baking S/P2 – Culinary Arts ServSafe® Food Handler ServSafe® Manager Food Manager Certification	Certified Culinarian® (CC®) Certified Fundamentals Cook® (CFC®) Culinary Arts ProStart Secondary Culinary Graduate The American Meat Science Association (AMSA) Culinary Meat Selection & Cookery Certification Kid's Nutrition Specialist Certification	Certified Restaurant Server ServSafe® Food Handler HACCP 4-Hour Certification	
2. Baking and Pastry Management	Baking and Pastry	Advanced Baking and Pastry	Hospitality and Tourism Work-Based Credit	
<b>Certifications</b>	CTECS: Baking and Pastry ServSafe® Manager Food Manager Certification	ACF Retail Commercial Baking Certified Fundamentals Pastry Cook® (CFPC®) Certified Pastry Culinarian® (CPC®)		



# Hospitality and Tourism Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
3. Hospitality and Tourism Management	Introduction to Hospitality and Tourism Management	Lodging Management	Event and Entertainment Management	Travel and Tourism Management
<b>Certifications</b>	Guest Service Gold® Golden Opportunities Guest Service Gold® Making Connections ServSafe® Food Handler Food Manager Certification Skills, Tasks, and Results Training (START) Certification	Certified Guestroom Attendant Front Desk Representative (HSC) PE: Lodging & Recreation	Academy of Hospitality and Tourism Certified Hospitality & Tourism Management Professional (CHTMP) Certified Maintenance Employee (HSC) PE: Event Planning & Management	Guest Service Gold® Tourism PE: Travel & Tourism

# Hospitality and Tourism Occupations and Opportunities for Advanced Training

## Occupations by Level of Training

## Opportunities for Postsecondary Training

### Top In-Demand Occupations for Those with a High School Diploma or Equivalent

Food Service Managers--\$66,800  
 Lodging Managers--\$62,400  
 Chefs and Head Cooks--\$47,00  
 Reservation and Transportation Ticket Agents and Travel Clerks--\$43,300  
 Travel Agents--\$40,500  
 First-Line Supervisors of Housekeeping and Janitorial Workers--\$39,900  
 Animal Trainers--\$37,100  
 First-Line Supervisors of Food Preparation and Serving Workers--\$34,400  
 Tour Guides and Escorts--\$33,800  
 Building Cleaning Workers, All Other--\$31,900  
 Recreation Workers--\$28,900  
 Concierges--\$28,500  
 Bakers--\$27,100  
 Cooks, All Others--\$27,000  
 Cooks, Restaurant--\$26,700  
 Cooks, Short Order--\$25,300  
 Janitors and Cleaners, Except Maids and Housekeeping Cleaners--\$25,100  
 Food Preparation Workers--\$25,100  
 Food Servers—Non-Restaurant--\$30,500  
 \*Cooks, Private Household--\$39,100

\*Occupation requests additional training after high school (Postsecondary Non-Degree Award)

### Credential (C) and Associates (A) Programs

- Dietary Manager -C
- Customer Service and Support -C
- Culinary Arts -C
- Catering Professional -C
- Hotel Management -C
- Restaurant Management -C
- Corporate Event Planner -C
- Kitchen and Food Preparation Techniques -C
- Professional Cooking -C
- Culinary Arts Technology -A
- Baking and Pastry Arts -A

### Bachelor's Degree Programs

- Hospitality, Resort and Tourism Management
- Hospitality Management
- Tourism Management

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

# Human Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Barber/Master Hair Care</b>	<b>Barber 1</b>	<b>Barber 2</b>	<b>Barber 3</b>	<b>Barber 4</b>
<b>Certifications</b>	Lucas-Cide Certification OSHA 10 South Carolina Hair Braiding Registration Microburst Employability	Barbicide Certification Lucas-Cide Certification OSHA 10 South Carolina Hair Braiding Registration	Lucas-Cide Certification OSHA 10 South Carolina Hair Braiding Registration	South Carolina Registered Barber License South Carolina Master Hair Care
<b>2. Cosmetology</b>	<b>Cosmetology 1</b>	<b>Cosmetology 2</b>	<b>Cosmetology 3</b>	<b>Cosmetology 4</b>
<b>Certifications</b>	Lucas-Cide Certification OSHA 10 Microburst Employability	Lucas-Cide Certification OSHA 10	S/P2-Cosmetology	South Carolina Cosmetology License
<b>3. Esthetics</b>	<b>Esthetics 1</b>	<b>Esthetics 2</b>	<b>Esthetics 3</b>	<b>Esthetics 4</b>
<b>Certifications</b>	Lucas-Cide Certification OSHA 10 Microburst Employability	Lucas-Cide Certification OSHA 10	Lucas-Cide Certification OSHA 10	South Carolina Esthetician License
<b>4. Nail Technology</b>	<b>Nail Technology 1</b>	<b>Nail Technology 2</b>	<b>Nail Technology 3</b>	<b>Human Services Work-Based Credit</b>
<b>Certifications</b>	Lucas-Cide Certification OSHA 10 Microburst Employability	Lucas-Cide Certification OSHA 10	South Carolina Nail Technician License	

Human Services Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
5. Family and Consumer Science (FCS)-Child Development	Child Development 1	Child Development 2	Human Development Responsible Life Choices	Family and Consumer Sciences Work Based Credit
Certifications	American Red Cross Baby Sitting First Aid/CPR/AED PE: Interpersonal Skills	Advanced Child Care Services First Aid/CPR/AED PE: Interpersonal Skills	First Aid/CPR/AED ServSafe® Food Handler PE: Interpersonal Skills	
6 Family and Consumer Science (FCS)-Family and Consumer Sciences	FCS 1	FCS 2	Family Life Education	Family and Consumer Sciences Work Based Credit
Certifications	First Aid ServSafe® Food Handler PE: Interpersonal Skills	First Aid/CPR/AED Broad Field Family and Consumer Sciences Assessment/ Certification	Broad Field Family and Consumer Sciences	
7. Family and Consumer Sciences-Family Life Education	Family Life Education 1	Family Life Education 2	Child Development 1	Family and Consumer Sciences Work Based Credit
Certifications	First Aid ServSafe® Food Handler PE: Interpersonal Skills	First Aid/CPR/AED Family and Community Services Assessment/ Certification	ARC Babysitting** Teen Babysitting	
8. Family and Consumer Science (FCS)-Fashion, Fabric and Design	Fashion, Fabric, and Design 1	Fashion, Fabric, and Design 2	FCS 1	Family and Consumer Sciences Work Based Credit
Certifications	Microburst Employability OSHA	Fashion, Textiles and Apparel	First Aid/CPR/AED ServSafe® Food Handler PE: Interpersonal Skills	PE: Precision Exams

# Human Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>9. Family and Consumer Science (FCS)-Financial Fitness</b>	<b>Financial Fitness 1</b>	<b>FCS 1</b>	<b>FCS 2</b>	<b>Family and Consumer Sciences Work Based Credit</b>
<b>Certifications</b>	WISE Financial Literacy Financial Literacy Personal and Family Finance	First Aid ServSafe® Food Handler PE: Interpersonal Skills	First Aid/CPR/AED Broad Field Family and Consumer Sciences Assessment/ Certification	
<b>10. Family and Consumer Science (FCS) Foods and Nutrition</b>	<b>Foods and Nutrition 1</b>	<b>Foods and Nutrition 2</b>	<b>Sports Nutrition 1 (Nutrition and Wellness)</b>	<b>Family and Consumer Sciences Work Based Credit</b>
<b>Certifications</b>	First Aid ServSafe® Food Handler	First Aid/CPR/AED ServSafe® Food Manager	PE: Nutrition and Wellness Nutrition, Food and Wellness	
<b>11. Family and Consumer Science (FCS)-Housing and Interiors</b>	<b>Housing and Interiors 1</b>	<b>Housing and Interiors 2</b>	<b>FCS 1</b>	<b>Family and Consumer Sciences Work Based Credit</b>
<b>Certifications</b>	Microburst Employability OSHA	Housing and Furnishing	First Aid ServSafe® Food Handler PE: Interpersonal Skills	

# Human Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>12. Family and Consumer Sciences-Human Development</b>	<b>Human Development 1</b>	<b>Human Development 2</b>	<b>Family Life Education</b>	<b>Parenting Education</b>
<b>Certifications</b>	First Aid ServSafe® Food Handler PE: Interpersonal Skills	First Aid/CPR/AED	ARC Babysitting** Teen Babysitting	First Aid ServSafe® Food Handler PE: Interpersonal Skills
<b>13. Family and Consumer Sciences- Parenting Education</b>	<b>Parenting Education 1</b>	<b>Parenting Education 2</b>	<b>Child Development 1</b>	<b>Family and Consumer Sciences Work Based Credit</b>
<b>Certifications</b>	First Aid ServSafe® Food Handler PE: Interpersonal Skills	First Aid/CPR/AED	ARC Babysitting** Teen Babysitting	
<b>14. Family and Consumer Sciences (FCS)-Sports Nutrition</b>	<b>Sports Nutrition 1 (Nutrition and Wellness)</b>	<b>Sports Nutrition 2 (Sports Nutrition)</b>	<b>Foods and Nutrition 1</b>	<b>Family and Consumer Sciences Work Based Credit</b>
<b>Certifications</b>	PE: Nutrition and Wellness	Nutrition, Food and Wellness Kid's Nutrition Specialist Certification, Sports Nutrition	First Aid ServSafe® Food Handler	

# Human Services Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
15. Family Systems – Mental Health	Child Development 1	Mental Health Fitness	Family Life Education	Parenting Education
Certifications	ARC Babysitting** Teen Babysitting	School Mental Health Certification Student Mental Health and Suicide Prevention Teen Mental Health First Aid (tMHFA)	First Aid/CPR/AED	First Aid ServSafe® Food Handler PE: Interpersonal Skills

# Human Services Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Postsecondary Certificate or an Associates Degree	Credential (C) and Associates (A) Programs
<p>Crematory Operators and Personal Care and Service Workers, All Other--\$28,200</p> <p>Residential Advisors--\$33,500</p> <p>Exercise Trainers and Group Fitness Instructors--\$39,600</p> <p>Funeral Attendants--\$28,300</p> <p>Locker Room, Coatroom, and Dressing Room Attendants--\$25,800</p> <p>First-Line Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services--\$43,200</p> <p>Community Health Workers--\$42,100</p> <p>Social and Human Service Assistants--\$34,200</p> <p>Tailors, Dressmakers, and Custom Sewers--\$29,300</p> <p>Pressers, Textile, Garment, and Related Materials--\$24,700</p>	<p>Morticians, Undertakers, and Funeral Arrangers--\$49,400</p> <p>Skincare Specialists--\$36,400</p> <p>Manicurists and Pedicurists--\$33,300</p> <p>Hairdressers, Hairstylists, and Cosmetologists--\$29,900</p> <p>Barbers--\$31,700</p> <p>Massage Therapists--\$36,900</p> <p>Religious Workers, All Other--\$34,900</p> <p>Directors, Religious Activities and Education--\$73,200</p> <p>Clergy--\$47,800</p> <p>Community and Social Service Specialists, All Other--\$43,200</p> <p>Health Education Specialists--\$59,600</p> <p>Social Workers, All Other--\$50,500</p> <p>Child, Family, and School Social Workers--\$43,600</p> <p>Substance Abuse, Behavioral Disorder, and Mental Health Counselors--\$44,400</p> <p>Social and Community Service Managers--\$74,400</p>	Bachelor's Degree Programs
		<ul style="list-style-type: none"> <li>• Cosmetology -C</li> <li>• Esthetics Technician -C</li> <li>• Message Therapy -C</li> <li>• Certified Residential Interior Designer -C</li> <li>• Embalmer -C</li> <li>• Applied Science in Barbering -A</li> <li>• Applied Science in Cosmetology -A</li> <li>• Human Services -A</li> <li>• Funeral Service -A</li> </ul> <ul style="list-style-type: none"> <li>• Business Administration</li> <li>• Management</li> </ul>

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.



Agricultural Education Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
1. Agricultural Mechanics and Technology	-Agricultural and Biosystems Science OR -Agricultural Science and Technology	Environmental and Natural Resources Management	Forestry Wildlife Management Aquaculture Outdoor Recreation Equipment Operations and Maintenance Agriculture Mechanics and Technology Soil and Water Conservation Soils and Soiless Research	
	Environmental and Natural Resources Management for the Workplace 1	Environmental and Natural Resources Management for the Workplace 2		
	Environmental and Natural Resources Management	Soil and Water Conservation Forestry Wildlife Management		
Certifications	Southwest Airlines Professional Communications Certification	Hunter Education South Carolina Boater Education Certificate	Environmental and Natural Resources Ducks Unlimited Ecology Conservation and Management	
2. Biosystems Engineering Technology	Agricultural and Biosystems Science	Biosystems Mechanics and Engineering	Biosystems Technology 3	Biosystems Technology 4
Certifications	OSHA 10 Southwest Airlines Professional Communications Certification			
3. Environmental and Natural Resources Management	-Agricultural Science and Technology -Agricultural and Biosystems Science	-Agricultural Mechanics and Technology -Biosystems Mechanics and Engineering	-Agricultural Power Mechanics -Agricultural Structural Mechanics* -Equipment Operation and Maintenance -Soil and Water Conservation -Agribusiness and Marketing	
	-Agricultural Mechanics and Technology -Biosystems Mechanics and Engineering	-Agricultural Power Mechanics -Agricultural Structural Mechanics -Equipment Operations and Maintenance		
	Agricultural Mechanics and Technology for the Workplace 1	Agricultural Mechanics and Technology for the Workplace 2		
Certifications	Southwest Airlines Professional Communications Certification	OSHA 10 EETC Principles of Small Engine Technology Certification Precision Exams: Small Engine Repair I	Agricultural Mechanics and Technology Outdoor Power Equipment Snap-on/NC3: Battery, Starting, and Charging Certification	

Agricultural Education Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
4. Horticulture	-Agricultural and Biosystems Science -Agricultural Science and Technology	Introduction to Horticulture	-Equipment Operation and Maintenance -Agricultural Mechanics and Technology -Agribusiness and Marketing -Soils and Soilless Research	
	Horticulture for the Workplace 1	Horticulture for the Workplace 2		
	Introduction to Horticulture	-Floriculture -Golf Course Technology -Landscape Technology -Nursery, Greenhouse, and Garden Center Technology -Sports Turf Management -Turf and Lawn Management		
Certifications	Southwest Airlines Professional Communications Certification	Horticulture	BASF Plant Science Certification (88) Benz School of Floral Design-Principles of Floral Design Certification Pesticide Applicators License	
5. Plant and Animal Systems	-Agricultural and Biosystems Science - Agricultural Science and Technology - Agricultural Science for the Workplace	-Agricultural Crop Production and Management -Animal Science -Aquaculture -Cattle Production -Equine Science -Farm Animal Production -Food Processing -Introduction to Veterinary Science -Small Animal Care -Soil and Water Conservation	Equipment Operation and Maintenance Agricultural Mechanics and Technology Soils and Soilless Research	
	Animal Science for the Workplace 1	Animal Science for the Workplace 2		
Certifications		Equine Management & Evaluation NCLA Principles of Livestock Selection & Evaluation Certification	AMSA Food Safety and Science Certification (6) AMSA Meat Evaluation Certification (12) BASF Plant Science Certification Elanco Fundamentals of Animal Science Certification (243) Elanco Veterinary Medical Applications Certification (98) Plant and Animal Systems TVMA (Texas Veterinary Medical Association) Certified Veterinary Assistant Veterinary Assistance Certification	

# Agricultural Education Occupations and Opportunities for Advanced Training

## Occupations by Level of Training

## Opportunities for Postsecondary Training

### Opportunities for High School Graduates

### Opportunities for Those Holding an Associates Degree

### Credential (C) and Associates (A) Programs

Water and Wastewater Treatment Plant and System Operators--\$39,900  
 Farm Equipment Mechanics and Service Technicians—\$38,500  
 Hazardous Materials Removal Workers—\$37,400  
 Logging Equipment Operators--\$33,300  
 Forest and Conservation Workers—\$29,100  
 First-Line Supervisors of Farming, Fishing, and Forestry Workers—\$52,300  
 Tree Trimmers and Pruners—\$32,600  
 Pesticide Handlers, Sprayers, and Applicators, Vegetation—\$35,500  
 Pest Control Workers--\$31,700  
 Farmers, Ranchers, and Other Agricultural Managers--\$59,700  
 Refuse and Recyclable Material Collectors--\$24,000  
 Farmworkers, Farm, Ranch, and Aquacultural Animals--\$29,900  
 Farmworkers and Laborers, Crop, Nursery, and Greenhouse--\$25,100  
 Agricultural Equipment Operators—\$27,700  
 Graders and Sorters, Agricultural Products—\$25,400

Forest and Conservation Technicians—\$40,200  
 Environmental Science and Protection Technicians, Including Health—\$39,000  
 Food Science Technicians—\$39,100

- Ag Mechanics-Welding –C & A
- Electrical Certification -C
- Horticulture –C & A
- ENR –C & A
- Outboard Marine Technology –C
- Turf and Lawn Management -A
- Diversified Agriculture Program -A
- Horticulture Technology Program -A
- Forestry Management -A
- Wildlife Management- A

### Opportunities for Those Holding a Bachelor's Degree

### Bachelor's Degree Programs

Biological Technicians—\$43,200  
 Foresters—\$66,600  
 Zoologists and Wildlife Biologists—\$48,800  
 Soil and Plant Scientists--\$55,900  
 Environmental Engineers-\$67,200  
 Natural Sciences Managers—\$94,700

- Forestry Management
- Ag Mechanics
- Ag Business
- Ag Education
- Horticulture
- Equine Science
- Pre-Veterinary
- Animal Science
- Marine Biology
- Coastal Ecology and Conservation

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

Government and Public Administration Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
1. Governance	Business Law	Foundations of Leadership	Community and Regional Planning	
Certifications	Precision Exams: Leadership Principles I	Precision Exams: Leadership Principles II	PMI Project Management Ready	
2. Public Management and Administration	Foundations of Leadership	Fundamentals of Project Management	Principles of Project Management	
Certifications	Precision Exams: Leadership Principles I	Precision Exams: Leadership Principles II	PMI Project Management Ready	

# Government and Public Administration Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Bachelor's Degree	Credential (C) and Associates (A) Programs
Transportation Inspectors--\$67,900 Construction and Building Inspectors--\$47,400 Eligibility Interviewers, Government Programs--\$42,300 Court, Municipal, and License Clerks--\$34,900 Occupational Health and Safety Technician--\$45,100 Postmasters and Mail Superintendents--\$80,400	Agricultural Inspectors--\$43,300 Occupational Health and Safety Specialists--\$58,600 Tax Examiners and Collectors, and Revenue Agents--\$54,700 Appraisers and Assessors of Real Estate--\$48,900 Compliance Officers--\$62,400 Emergency Management Directors--\$61,300	<ul style="list-style-type: none"> <li>• Paralegal Specialist-C</li> <li>• Environmental, Health and Safety-C</li> <li>• Project Management-C</li> <li>• Human Resource Management-C</li> <li>• Applied Science—Paralegal-A</li> <li>• Administrative Office Technology-A</li> <li>• Environmental Engineering Technology-A</li> <li>• Political Science—American Government-A</li> <li>• Political Science—International Relations-A</li> </ul>
	Opportunities for Those Holding a Master's Degree	Bachelor's Degree Programs
	Urban and Regional Planners --\$58,200	<ul style="list-style-type: none"> <li>• Business Administration</li> <li>• Environmental Science/ Environmental Studies</li> <li>• Finance</li> <li>• Global Studies</li> <li>• Health Services Policy and Management</li> <li>• Human Resources</li> <li>• Management</li> <li>• Political Science</li> <li>• Public Administration</li> </ul>

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

# Law, Public Safety, Corrections and Security Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Emergency and Fire Management Services</b>	<b>Firefighter 1</b>	<b>Firefighter 2</b>		
<b>Certifications</b>	Basic Auto Extrication Firefighter Hazardous Materials Awareness (Firefighter) First Aid/CPR/AED First Responder SCFA Certificate NFPA 1001 Firefighter I Hybrid Firefighter I	Hazardous Materials Operations (Firefighter) SCFA Certificate NFPA 1001 Firefighter II Hybrid Firefighter II		
<b>2. Law Enforcement Services</b>	<b>Law Enforcement Services 1</b>	<b>Law Enforcement Services 2</b>		
<b>Certifications</b>	Emergency Telecommunicator Certification ETC Certification Course Precision Exams: Criminal Justice 1 Precision Exams: Law Enforcement (1)	Precision Exams: Criminal Justice 2 Community Emergency Response Team		
<b>3. Paralegal Systems Technology</b>	<b>Legal Systems Technology 1</b>	<b>Business Law</b>	<b>Advanced Business Law</b>	<b>Legal Systems Technology 2</b>
<b>Certifications</b>			Precision Exams: Business Law	Expert Rating: Legal Administrative Assistant Certification

# Law, Public Safety, Corrections and Security Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Postsecondary Non-Degree or Associates Degree	Credential (C) and Associates (A) Programs
<p>Legal Secretaries and Administrative Assistants--\$43,600</p> <p>Public Safety Telecommunicators--\$34,900</p> <p>School Bus Monitors and Protective Service Workers, All Other--\$31,000</p> <p>Transportation Security Screeners--\$41,100</p> <p>Security Guards--\$31,700</p> <p>Private Detectives and Investigators--\$49,600</p> <p>Police and Sheriff's Patrol Officers--\$45,200</p> <p>Detectives and Criminal Investigators--\$62,200</p> <p>Correctional Officers and Jailers--\$39,300</p> <p>First-Line Supervisors of Security Workers--\$45,300</p> <p>First-Line Supervisors of Police and Detectives--\$64,200</p> <p>First-Line Supervisors of Correctional Officers--\$57,100</p> <p>Title Examiners, Abstractors, and Searchers--\$42,900</p> <p>Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers--\$23,000</p> <p>Crossing Guards and Flaggers--\$33,200</p>	<p>Postsecondary Non-Degree Award:</p> <p>Firefighters--\$38,000</p> <p>First-Line Supervisors of Firefighting and Prevention Workers--\$58,700</p> <p>Paramedics--\$35,800</p> <p>Emergency Medical Technicians--\$35,800</p> <p>Court Reporters and Simultaneous Captioners--\$59,700</p> <p>Associate's Degree:</p> <p>Paralegals and Legal Assistants--\$46,700</p>	<ul style="list-style-type: none"> <li>Emergency Medical Technician-C</li> <li>Fire Science-C</li> <li>Police Pre-Academy Training-C</li> <li>Cybersecurity-C</li> <li>Emergency Medical Technician-A</li> <li>Criminal Justice Associates-A</li> <li>Paralegal Studies-A</li> <li>Paralegal Specialists-C</li> </ul>
	Opportunities for Those Holding a Bachelor's or Advanced Degree	Bachelor's Degree Programs
	<p>Bachelor's or Advanced Degree:</p> <p>Judges, Magistrate Judges, and Magistrates--\$83,500</p> <p>Lawyers--\$114,300</p> <p>Probation Officers and Correctional Treatment Specialists--\$44,500</p> <p>Forensic Science Technicians--\$43,500</p>	<ul style="list-style-type: none"> <li>BA/BS in Criminal Justice</li> <li>BA in Intelligence and Security Studies</li> <li>Pre-Law and Legal Studies</li> <li>Law/Psychology</li> </ul>

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

## STEM Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Aerospace Engineering Technology</b>	<b>Fundamentals of Aerospace Technology</b>	<b>Advanced Aerospace Technology</b>	<b>Aeronautics Engineering Applications</b>	<b>Astronautics Engineering Applications</b>
<b>Certifications</b>			Pre-Engineering Certification Drone Certification	Precision Exams: Engineering Technology
<b>2. Clean Energy</b>	<b>Clean Energy Systems</b>	<b>Clean Energy Applications</b>	<b>Clean Energy Strategies</b>	<b>Clean Energy Innovations</b>
<b>Certifications</b>				HACCP (Hazard Analysis Critical Control Point) 4-Hour Certification
<b>3. Core Engineering</b>	<b>Core Engineering 1</b>	<b>Core Engineering 2</b>	<b>Core Engineering 3</b>	<b>Core Engineering 4</b>
<b>Certifications</b>			Pre-Engineering Certification AutoDesk Auto CAD	Precision Exams: Engineering Technology CSWA– SolidWorks Associate Certification



## STEM Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>4. Food Science</b>	<b>Food Science 1</b>	<b>Food Science 2</b>	<b>Culinary Arts</b>	<b>STEM Work-based credit course</b>
<b>Certifications</b>	HACCP (Hazard Analysis Critical Control Point) 4-Hour Certification ServSafe® Food Handler	-Food Science Fundamentals ServSafe® Manager -AMSA Food Safety and Science Certification	Food Manager Certification	
<b>5. Innovations in Science and Technology</b>	<b>The Nature of Science and Technology</b>	<b>Core Applications of Science and Technology</b>	<b>Impacts of Science and Technology</b>	<b>Creativity and Innovations</b>
<b>Certifications</b>				
<b>6. Pre-Engineering (PLTW)</b>	PLTW – Introduction to Engineering Design OR PLTW – Introduction to Engineering Design OR PLTW – Engineering Essentials	PLTW – Principles of Engineering OR PLTW – Engineering Essentials OR PLTW – Principles of Engineering	Digital Electronics Computer Integrated Manufacturing Engineering Design and Development Aerospace Engineering Civil Engineering and Architecture Computer Science Principles Environmental Sustainability	
<b>Certifications</b>	AutoDesk Inventor	Pre-Engineering Certification Robotics Certification Precision Exams: Robotics I Precision Exams: Robotics II	CSWA– SolidWorks Associate Certification AutoDesk Maya Onshape (New) Fusion 360 (New) AutoDesk Inventor Certified User Exam	

## STEM Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for Those Holding an Associates Degree	Opportunities for Those Holding a Master’s Degree	Credential (C) and Associates (A) Programs
Life, Physical, and Social Science Technicians, All Other--\$52,900	Economists--\$52,600 Statisticians--\$67,300 Computer and Information Research Scientists--\$106,700	<ul style="list-style-type: none"><li>• Computerized Numerical Control-C</li><li>• Manufacturing Production Technician-C</li><li>• Mechatronics Technology I-C</li><li>• Nuclear Fundamentals-C</li><li>• Radiation Protection and Control-C</li><li>• Commercial Unmanned Aircraft-C</li><li>• Forestry Management Technology-A</li><li>• Electronic Engineering Technology-A</li><li>• Engineering Design Technology-A</li><li>• Mechanical Engineering Technology-A</li><li>• Mechatronics Technology-A</li><li>• Engineering-A</li></ul>
Opportunities for Those Holding a Bachelor’s Degree	Opportunities for Those Holding a Doctoral or Professional Degree	Bachelor’s Degree Programs
Social Science Research Assistants--\$50,400 Social Scientists and Related Workers, All Other--\$78,900 Geoscientists, Except Hydrologists and Geographers--\$74,600 Environmental Scientists and Specialists, Including Health--\$55,800 Chemists--\$68,400 Conservation Scientists--\$66,000 Biological Scientists, All Other--\$84,400 Engineers, All Other--\$99,700 Nuclear Engineers--\$110,400 Mechanical Engineers--\$83,800 Materials Engineers--\$80,700 Industrial Engineers--\$86,100 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors--\$77,200 Electronics Engineers, Except Computer--\$91,000 Electrical Engineers--\$85,500 Computer Hardware Engineers--\$103,900 Chemical Engineers--\$101,600 Aerospace Engineers--\$108,300 Data Scientists and Mathematical Science Occupations, All Other--\$57,200 Architectural and Engineering Managers--\$130,900	Biochemists and Biophysicists--\$89,600	<ul style="list-style-type: none"><li>• Chemistry</li><li>• Culinology</li><li>• Physics</li><li>• Mathematics</li><li>• Biostatistics</li><li>• Environmental Studies</li><li>• Aerospace Studies</li><li>• Biochemistry</li><li>• Engineering Science</li><li>• Electrical Engineering</li><li>• Engineering Systems</li></ul>
Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.		

## Marketing Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
1. Marketing Analytics	Business Data Applications Digital Workplace Applications Entrepreneurship Social Media Marketing Workplace Communications Virtual Enterprise 1 Social Media Marketing	Marketing  Accounting 1	Marketing Analytics	Work Based Learning
Certifications	Student Social Media Marketing (NEW)	Precision Exams: Accounting 1  Precision Exams: Digital Marketing	Google Analytics	Microburst Employability Soft Skills
2. Marketing Communications	Marketing	Advertising  Digital Media Marketing	Accounting 1 Digital Multimedia Digital Workplace Applications Marketing Analytics Image Editing	Work Based Learning
Certifications	Precision Exams: Digital Marketing	Facebook Certified Professional Google Advertising Fundamentals Exam Precision Exams: Advertising and Promotion Precision Exams: Digital Marketing	Precision Exams: Accounting 1 TOSA® DigiComp TOSA® InDesign TOSA® Illustrator TOSA® Photoshop	(Bing Ads) Microsoft Advertising Certification  CTECS: Marketing Communications  Microburst Employability Soft Skills

## Marketing Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
3. Marketing Management	Marketing	Marketing Management OR Sports and Entertainment Management	Sports and Entertainment OR Communication OR Social Media Marketing OR Fundamentals of Project Management OR Fundamentals of Human Resource Management	Work Based Learning
Certifications		Precision Exams: Sports and Entertainment Marketing	Stukent Social Media CIW E-Commerce Specialist CIW Social Media Strategist Certified Associate in Project Management (CAPM) PMI Project Management Ready Precision Exams: Exploring Business & Marketing	(Bing Ads) Microsoft Advertising Certification)  CTECS: Marketing Management  Microburst Employability Soft Skills
4. Merchandising	Marketing OR Digital Workplace Applications	Merchandising	Accounting 1 OR Fashion Marketing OR Professional Sales OR Social Media Marketing OR Sports and Entertainment Marketing	Work Based Learning
Certifications		Retail Industry Fundamentals	Student Social Media CIW E-Commerce Specialist CIW Social Media Strategist Facebook Certified Professional	CTECS: Merchandising  Microburst Employability Soft Skills

Marketing Occupations and Opportunities for Advanced Training

Occupations by Level of Training

Opportunities for Postsecondary Training

Opportunities for High School Graduates

Opportunities for Those Holding a Bachelor’s Degree

Credential (C) and Associates (A) Programs

Sales and Related Workers, All Others--\$27,100  
Real Estate Sales Agents--\$38,900  
Real Estate Brokers--66,300  
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products--\$57,300  
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel--\$45,200  
Advertising Sales Agents--\$45,200  
First-Line Supervisors of Non-Retail Sales Workers--\$67,300  
First-Line Supervisors of Retail Sales Workers--\$38,400  
Merchandise Displayers and Window Trimmers--\$28,600  
Property, Real Estate, and Community Association Managers--\$57,100  
Demonstrators and Product Promoters--\$34,300  
Retail Salespersons--\$24,400  
Parts Salespersons--\$30,100  
Counter and Rental Clerks--\$24,400

Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products--\$54,500  
Public Relations Specialists--\$50,100  
Market Research Analysts and Marketing Specialists--\$57,600  
Fundraising Managers--\$74,400  
Sales Managers--\$113,900  
Marketing Managers--\$113,000

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

- Marketing and Sales for Small Business-C
- Marketing Communication-C
- Marketing in the Non-Profit Sector-C
- Customer Service Specialists-C
- Marketing-C
- Digital Marketing Communications-C
- Marketing-A
- Applied Finance and Marketing-A
- Business/Sports, Tourism and Recreation Management-A
- Marketing/Digital Marketing-C
- Marketing/ Integrated Marketing Communications-C
- Marketing/Sales and Retail Management-A

Bachelor’s Degree Programs

- Marketing
- Marketing Management
- Mass Communications
- Advertising
- Public Relations/Image Management
- Real Estate
- Retailing and Retail Operations
- Speech Communication and Rhetoric

# Arts, AV Technology and Communication Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>1. Architecture/Mechanical Design</b>	<b>Architecture Design 1 Mechanical Design 1</b>	<b>Architecture Design 2 Mechanical Design 2</b>		*Commonly these are double blocked (supporting a two-year program)
<b>Certifications</b>	AutoDesk Auto CAD (Associate) AutoDesk Inventor (Associate)	AutoDesk Auto CAD (Professional) AutoDesk Inventor (Professional) AutoDesk Maya (Professional)		
<b>2. Digital Art and Design</b>	<b>Digital Art and Design 1</b>	<b>Digital Art and Design 2</b>	<b>Digital Art and Design 3</b>	<b>Digital Art and Design 4</b>
<b>Certifications</b>	Adobe Certified Professional (ACP) Print & Digital Media Publication with Adobe InDesign Adobe Certified Professional (ACP) Visual Design Using Photoshop	Adobe Certified Professional (ACP) Graphic Design Using Adobe In Design Adobe Certified Professional (ACP) Web Communication with Adobe Dreamweaver	Adobe Certified Professional (ACP) Using Adobe Animate Adobe Certified Professional (ACP) Video Communication with Adobe Premiere Pro	Adobe Certified Professional Video Design Specialist (ACP-VDP)=Premier Pro (required) + Photoshop or After Effects Apple Certified Mac Technician (ACMT)
<b>3. Graphic Communications</b>	<b>Graphic Communications 1</b>	<b>Graphic Communications 2</b>	<b>Graphic Communications 3</b>	<b>Graphic Communications 4</b>
<b>Certifications</b>	Adobe Certified Professional (ACP) Graphic Design Using Adobe In Design Adobe Certified Professional (ACP) Print & Digital Media Publication with Adobe InDesign Adobe Certified Professional Video Design Specialist (ACP-VDP)=Premier Pro (required) + Photoshop or After Effects	Adobe Certified Professional (ACP) Video Communication with Adobe Premiere Pro Adobe Certified Professional (ACP) Visual Design Using Photoshop	Adobe Certified Professional Visual Design Specialist (ACP-VDS)=Photoshop (required) + Illustrator or InDesign Adobe Certified Professional Web Design Specialist (ACP-WD)=Dreaweaver (required) + Animate or Photoshop	Apple Certified iOS Technician (ACiT) Adobe Certified Professional (ACP) Visual Effects & Motion Graphics Using Adobe After Effects

# Arts, AV Technology and Communication Career Cluster Pathways

Program Name	Course 1	Course 2	Course 3	Course 4
<b>4. Media Technology</b>	<b>Media Technology 1</b>	<b>Media Technology 2</b>	<b>Media Technology 3</b>	<b>Media Technology 4</b>
<b>Certifications</b>	Adobe Certified Professional (ACP) Video Communication with Adobe Premiere Pro	Adobe Certified Professional (ACP) Visual Effects & Motion Graphics Using Adobe After Effects	Adobe Certified Professional Video Design Specialist (ACP-VDP)=Premier Pro (required) + Photoshop or After Effects Certified Technology Specialist (CTS)	Apple Final Cut Pro X Professional Post-Production Apple Logic Pro Professional Music Production Certified Technology Specialist Design (CTS-D) Certified Technology Specialist Installation (CTS-I)
<b>5. Fashion Design and Apparel Construction</b>	<b>Fashion Design and Apparel Construction 1</b>	<b>Fashion Design and Apparel Construction 2</b>	<b>Entrepreneurship Family and Consumer Sciences 1 and 2 Fashion, Fabric and Design 1 and 2 Fashion Marketing</b>	
<b>Certifications</b>	Precision Exams: Apparel Design & Production I	Precision Exams: Apparel Design & Production II Fashion, Textiles, and Apparel Assessment/Certification		
<b>6. Interior Design</b>	<b>Interior Design 1</b>	<b>Interior Design 2</b>	<b>Entrepreneurship Housing and Interiors 1 and 2 Family and Consumer Sciences 1 and 2 Fashion, Fabric and Design 1 and 2 Fashion Marketing</b>	
<b>Certifications</b>		Housing and Furnishings Assessment/Certification Interior Design Fundamentals Assessment/Certification		



Arts, AV Technology and Communication Occupations and Opportunities for Advanced Training		
Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Bachelor’s Degree	Credential (C) and Associates (A) Programs
Telecommunications Line Installers and Repairer--\$44,700 Lighting Technicians and Media and Communication Equipment Workers, All Others--\$63,500 Photographers--\$37,400 Media and Communication Workers, All Other--\$32,600 Entertainers and Performers, Sports and Related Workers, All Other--\$27,300 Musicians and Singers--\$42,300 Dancers--\$40,700	Film and Video Editors--\$47,200 Camera Operators, Television, Video, and Film--\$42,100 Writers and Authors--\$58,800 Technical Writers--\$69,500 Editor--\$50,000 News Analysts, Reporters, and Journalists--\$38,900 Broadcast Announcers and Radio Disc Jockey--\$29,000 Music Directors and Composers--\$42,600 Producers and Directors--\$49,500 Graphic Designer--\$45,200 Special Effects Artists and Animators--\$36,800 Fine Artists, Including Painters, Sculptors, and Illustrators--\$46,800 Art Directors--\$67,400 Agents and Business Managers of Artists, Performers, and Athletes--\$56,100	<ul style="list-style-type: none"> <li>• Photography-C</li> <li>• Media Arts-C</li> <li>• Media Arts Business-C</li> <li>• Digital Production Techniques-C</li> <li>• Audio Production-C</li> <li>• Graphics Design with Photoshop-C</li> <li>• Multimedia Arts-C</li> <li>• Architecture Engineering Technology-A</li> <li>• Mechanical Engineering Technology-A</li> <li>• Associates in Art-A</li> <li>• Commercial Art-A</li> <li>• Digital Arts-A</li> </ul>
Opportunities for Postsecondary Non-Degree		Bachelor’s Degree Programs
Actors--\$36,900 Telecommunications Equipment Installers and Repairers, Except Line Installers--\$53,500 Audio and Video Technicians--\$45,300		<ul style="list-style-type: none"> <li>• Graphics Communications</li> <li>• Fine Arts</li> <li>• Arts Management</li> <li>• Communication</li> <li>• Studio Art</li> <li>• Computing in the Arts</li> <li>• Convergence Journalism</li> <li>• Mass Communication</li> <li>• Broadcast Journalism</li> <li>• Sports Broadcasting</li> <li>• Design Film</li> <li>• Media Production</li> <li>• Visual Communications</li> </ul>
Opportunities for Those Holding an Associates Degree		
Broadcast Technicians--\$33,200	Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.	



Finance Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
1. Accounting	Digital Workplace Applications Business Data Applications	Accounting 1	Accounting 2	Work-Based Learning Personal Finance
Certifications		Precision Exams: Accounting 1	Precision Exams: Accounting II QuickBooks Certified User Sage 50 Peachtree Accounting Certification MOS: Microsoft Office Excel Associate 2019	CTECS: Accounting (EOP) MOS: Microsoft Office Excel Associate 2019 WISE – Financial Literacy Certification Program (FLCP) (ICEV) Personal Financial Literacy Certification (Everfi) Financial Literacy Precision Exams: General Financial Literacy Precision Exams by YouScience: Personal Financial Responsibility
2. Banking Services	Business Finance	Banking Services	Business Data Applications OR Personal Finance	Work Based Learning
Certifications		Precision Exams: Banking and Finance	MOS: Microsoft Office Excel Associate 2019 (ICEV) Personal Financial Literacy Certification (Everfi) Financial Literacy Precision Exams: General Financial Literacy Precision Exams by YouScience: Personal Financial Responsibility	
3. Business Finance	Business Finance	Accounting 1	Business Data Applications OR Personal Finance OR Securities and Investments	Work Based Learning
Certifications		Precision Exams: Accounting 1	MOS: Microsoft Office Excel Associate 2019 (ICEV) Personal Financial Literacy Certification (Everfi) Financial Literacy Precision Exams: General Financial Literacy Precision Exams by YouScience: Personal Financial Responsibility	CTECS: Business Finance WISE – Financial Literacy Certification Program (FLCP)

Finance Career Cluster Pathways				
Program Name	Course 1	Course 2	Course 3	Course 4
4. Insurance (New)	Business Data Applications OR Accounting 1 OR Digital Workplace Applications OR Marketing OR Entrepreneurship OR Professional Sales	Business Finance	Insurance and Risk Management	Work Based Learning
Certifications	Precision Exams: Accounting 1	MOS: Microsoft Office Excel Associate 2019 (ICEV) Personal Financial Literacy Certification (Everfi) Financial Literacy Precision Exams: General Financial Literacy Precision Exam: Personal Financial Responsibility	SC Property and Casualty Producer License	CTECS: Business Finance W!SE – Financial Literacy Certification Program (FLCP)
5. Securities and Investments	Business Data Applications OR Accounting 1 OR Digital Workplace Applications OR Professional Sales OR Fundamentals of Business, Finance and Marketing OR Business Law	Business Finance OR Personal Finance	Securities and Investments	Work Based Learning
Certifications	Precision Exams: Accounting 1	(ICEV) Personal Financial Literacy Certification (Everfi) Financial Literacy Precision Exams: General Financial Literacy Precision Exams: Personal Financial Responsibility	Business Data Applications Personal Finance Securities and Investments MOS: Microsoft Office Excel Associate 2019	W!SE – Financial Literacy Certification Program (FLCP)

# Finance Occupations and Opportunities for Advanced Training

Occupations by Level of Training		Opportunities for Postsecondary Training
Opportunities for High School Graduates	Opportunities for Those Holding a Bachelor's Degree	Credential (C) and Associates (A) Programs
Insurance Claims and Policy Processing Clerk--\$35,500 Loan Interviewers and Clerks--\$37,600 Credit Authorizers, Checkers, and Clerks--\$36,900 Insurance Sales Agents--\$51,100 Tax Preparers--\$31,400 Claims Adjusters, Examiners, and Investigators--\$66,500	Securities, Commodities, and Financial Services Sales Agents \$51,800 Actuaries \$77,700 Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other \$71,700 Loan Officers \$63,900 Insurance Underwriters \$53,300 Personal Financial Advisors \$79,000 Credit Analysts \$65,100 Budget Analysts \$70,400 Accountants and Auditors \$61,000 Financial Managers \$113,000	<ul style="list-style-type: none"> <li>Accounting-C</li> <li>Small Business Accounting-C</li> <li>Bookkeeping (Advanced)-C</li> <li>Accounting Clerk-C</li> <li>Basic Accounting-C</li> <li>Administrative Accounting Specialist-C</li> <li>Tax Preparer-C</li> <li>Payroll/ Income Tax Clerk-C</li> <li>Business Administration with a Major in Accounting-A</li> <li>Accounting-A</li> <li>Accounting with Information Systems-A</li> <li>Logistics Management-A</li> </ul>
Opportunities for Those Holding a Postsecondary Non-Degree		Bachelor's Degree Programs
Insurance Appraisers, Auto Damage--\$62,400		<ul style="list-style-type: none"> <li>Accounting</li> <li>Business Administration</li> <li>Business Analytics</li> <li>Economics</li> <li>Finance</li> <li>Financial Management</li> <li>Risk Management and Insurance</li> </ul>

Listed occupations reflect 10-year projections for the state. Included salaries reflect median salaries for the occupation for South Carolina.

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
AGR					<b>Agriculture, Food and Natural Resources CLUSTER Enrollment</b>																	13,469	13,251	16,661
AGR				421	Agricultural Mechanics and Technology		2			No	NCR							10	9	13	9			
AGR	HUM	STEM		A79	AMSA Food Safety and Science Certification			3		Yes	CR	1	1					8	6	4	4			
AGR				A83	AMSA Meat Evaluation Certification			3		Yes	CR					2	2	15	12	9	9			
AGR				A80	BASF Plant Science Certification			3		Yes	CR	22	21	60	59	25	24	98	88	108	73			
AGR				A82	Benz School of Floral Design-Principles of Floral Design Certification			3	2	Yes	CR							1	1	19	19			
AGR				420	Ducks Unlimited Ecology Conservation and Management			3	2	No	CR							71	62	14	14			
AGR				228	EETC Principles of Small Engine Technology Certification			3	2	Yes	CR			36	21	12	9	71	70	85	56			
AGR				A81	Elanco Fundamentals of Animal Science Certification			3		Yes	CR	62	61	119	109	157	140	259	243	285	251			
AGR	HLTH			A86	Elanco Veterinary Medical Applications Certification			3		Yes	CR	44	42			69	67	110	98	210	205			
AGR				422	Environmental and Natural Resources		2			No	NCR							22	11	82	53			
AGR				423	Horticulture		2			No	NCR							3	2	9	4			
AGR				A84	NCLCA Principles of Livestock Selection & Evaluation Certification			3	2	Yes	CR			30	30	33	33			46	42			
AGR	TRA			34	Outdoor Power Equipment			3		Yes	CR			1	1			50	40					
AGR				260	Pesticide Applicators License			3		No	CR							9	9	18	13			
AGR				424	Plant and Animal Systems		2			No	NCR							32	28	29	27			
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	68	39			
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	2															
AGR				432	Hunter Education--Added March 2021		2			No										177	176			
					<b>Total Certifications Administered and Earned for the Cluster</b>							154	142	321	295	335	306	785	699	1,176	994			

**OH**

United Equip Dealers Assoc  
OEDA Certified Technician--3  
NCCER Level 2--3  
+over 20 Tier 2 certs

**LA**

**no other high value certs**  
Ducks Unlimited Ecology  
Conserv & Mgt--Basic (1)

**GA**

no other high value certs

**NC**

**no other high value certs**  
Equine Mgt--Essential (2)  
Pesticide Applicator--Essential  
(2)

**TN**

Ducks Unlimited--Valued (2)  
Elanco certs--Preferred (3)  
FAA Part 107--Preferred (3)  
Animal Care Technologies for Vet  
Assisting w/ cert (3)

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ART					Arts, Audio-Video Technology and Communications CLUSTER Enrollment																	7,701	7,374	6,790
ART	BUS			A40	Adobe Certified Associate – Graphic Design & Illustration with Adobe Illustrator Adobe Certified Professional Graphic Design using Adobe InDesign–March 2021			3	2	Yes	CR	31	27	131	116	35	35	83	36	150	107			
ART	BUS			A39	Adobe Certified Associate – Print & Digital Media Publication with Adobe InDesign			3	2	Yes	CR	70	63	82	78	52	32	131	94	23	22			
	BUS								2					4	4	10	10	30	11	2	1			
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 Adobe Certified Professional Video Communication with Adobe Premiere Pro–March 2021			3	2	Yes	CR	37	17	38	38	10	10	21	21	35	32			
ART				80	Adobe Certified Associate – Visual Communication with Adobe Photoshop			3	2	Yes	CR	182	155	261	206	186	146	326	231	330	266			
	BUS													24	22	36	31	13	11	14	8			
ART	BUS			81	Adobe Certified Associate – Web Communication with Adobe Dreamweaver Adobe Certified Professional Web Communication with Adobe Dreamweaver–March 2021			3	2	Yes	CR	13	0	32	5	20	7	44	19	2	1			
	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									1	1			
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	1	1			
ART				312	Flexography First Operator Certification FTA1			3		No	CR					5	5	9	8	16	16			
ART				75	Housing and Furnishings Assessment/Certification			3		Yes	CR													
ART				73	Interior Design Fundamentals Assessment/Certification			3		Yes	CR							8	3	1	0			
ART				372	Precision Exams: 3D Animation		2			No	NCR													
ART				373	Precision Exams: Apparel Design & Production I		2		1	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			16	1			
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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
ART					<b>Arts, Audio-Video Technology and Communications CLUSTER Enrollment</b>																	7,701	7,374	6,790
ART				319	Precision Exams: Graphic Communications Advanced			3	2	No	CR									11	6			
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				460	Adobe Certified Professional (ACP) Using Adobe Animate--Added March 2021			3	2											89	44			
	IT																			3	2			
ART	IT			461	Adobe Certified Professional (ACP) Visual Effects & Motion Graphics Using Adobe After Effects = (Premier Pro required + Photoshop or After Effects--Added March 2021			3	2											19	19			
ART				462	Adobe Certified Professional Video Design Specialist=Premier Pro (required) + Illustrator or InDesign--Added March 2021			3												5	5			
ART	IT			463	Adobe Certified Professional Visual Design Specialist (ACP-VDS)=Photoshop (required) + Illustrator or InDesign--Added March 2021			3	2											10	10			
ART	IT			464	Adobe Certified Professional Web Design Specialist (ACP-WD)--Added March 2021			3	2															
					<b>Total Certifications Administered and Earned for the Cluster</b>							340	269	591	488	415	308	751	470	728	542			

**OH**

no other high value certs  
**Note:** Adobe Certified Pro AfterEffects, Animate, Dreamweaver, Illustrator, InDesign, Photoshop, Premiere Pro--all 4 pts in OH (1/2)

**LA**

Adobe Certified Expert--Advanced (3)  
Autodesk Certified User Inventor--Advanced  
Autodesk Certified User AutoCad--Basic

**GA**

no other high value certs

**NC**

only credential is Adobe Certified Professional--Career (3)

**TN**

Adobe Certified Assoc (After Effects, Animate, Dreamweaver, Illustrator, InDesign, Photoshop, Premier Pro)--Preferred (3)

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ARC					Architecture and Construction CLUSTER Enrollment																	5,855	5,543	5,684
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						3	3				
ARC				224	Certified LabVIEW Associate Developer (CLAD)			3		Yes	CR													
ARC	ART			330	CTECS: Architectural Design		2			No	NCR													
ARC				325	CTECS: Building Construction		2			No	NCR							22	11	36	12			
ARC				326	CTECS: Carpentry		2			No	NCR									10	2			
ARC				327	CTECS: Electricity		2			No	NCR							15	13	12	10			
ARC				328	CTECS: HVAC Technology		2			No	NCR									6	6			
ARC				329	CTECS: Masonry		2			No	NCR									5	5			
ARC	ART			331	CTECS: Mechanical Design		2			No	NCR							13	5	10	5			
ARC				17	EPA Section 608			3		Yes	CR	15	14	10	10	18	18	7	7	26	26			
ARC				46	HVAC Excellence			3		Yes	CR							5	5					
ARC	MAN			352	Level 1: Fundamentals Electricity	1			2	No	NCR													
ARC	MAN			354	Level 1: Fundamentals Fluid Power - Hydraulics	1			2	No	NCR													
ARC	MAN			355	Level 1: Fundamentals Industry 4.0	1			2	No	NCR													
ARC	MAN			353	Level 1: Fundamentals Mechanical Systems	1			2	No	NCR													
ARC				146	NATE – Air Conditioning			3		Yes	CR							4	4					
ARC				147	NATE – Air Distribution--Deleted	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	18	18			
ARC				56	NCCER – Core			3		Yes	CR	206	201	262	254	133	75	249	239	281	269			
ARC				27	NCCER – Electricity			3		Yes	CR	29	29	16	13	10	8	5	5	28	24			
ARC				29	NCCER – Masonry			3		Yes	CR	12	12			1	1			7	7			
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	ART			363	Precision Exams: CAD Architectural Design II		2			No	NCR													
ARC	ART			364	Precision Exams: CAD Architectural Design III		2			No	NCR													
ARC	ART			365	Precision Exams: CAD Mechanical Design I		2			No	NCR									3	3			

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ARC					Architecture and Construction CLUSTER Enrollment																	5,855	5,543	5,684
ARC	ART			366	Precision Exams: CAD Mechanical Design II		2			No	NCR													
ARC	ART			367	Precision Exams: CAD Mechanical Design III		2			No	NCR													
ARC	ART			362	Precision Exams: CAD Architectural Design I		2			No	NCR													
ARC	MAN	TRA		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			2	Yes	NCR													
ARC				A46	RCA--Electrical Principles	1			2	Yes	NCR			1	1									
ARC				A48	RCA--Electrical Wiring	1			2	Yes	NCR													
ARC				A47	RCA--House Wiring	1			2	Yes	NCR													
ARC				254	S/P2 -- Construction Safety and Pollution		2			No	NCR					5	5	60	58	27	25			
ARC				465	Home Builders Association of Alabama (HBAA) Residential Construction Skills Certification (added March 22)			3																
					Total Certifications Administered and Earned for the Cluster							337	327	336	325	222	160	412	379	472	415			

**OH****no other high value certs**

ACCA HVAC Universal--3  
 ISCET Certified Electronics Technician--3  
 Journeyman Cert in any trade--3  
 ETA Interim Credential--3  
 EPA Refrig Recovery Core+Level 2 (High Pressure)--3  
 EPA Refrig Recovery Core+Level 3 (Low Pressure)--3  
 EPA Refrig Recovery Universal--3  
 MACC Tech--3  
 NATE HVACR Certification (Installation, Service or Senior Levels)--3  
 NATE HVAC Support Tech--3  
 NCCER Level 2--3

**LA**

Carpenters Intl Training Fund Levels 2 and 3--Advanced (3)  
 Electrical Training Alliance (levels 1-5)--Advanced (3)  
 EPA Section 608 Cert AND Employment Ready (AC, Elec OR Heating)--Advanced (3)  
 ADDA Arc Apprentice Drafter--Basic (1/2)  
 HVAC Excellence EPA Section 608 Cert--Basic (1/2)  
 NCCER Certs--All Level 1 (Basic--1/2); All Level 2 (Advanced--3)

**GA****no other high value certs****NC**

all NCCER certs req levels I-III--Career  
 Autodesk AutoCAD, Inventor, Revit --Career (3)  
 Solidworks Professional (CSWP)--Career (3)  
 ANSI Apt. Maintenance Tech--Career (3)  
 RETA Cert Industrial Refrigeration Operator--Career (3)

**TN**

Certified Solidworks Assoc--Preferred (3)  
 EPA Section 608--Recognized (1)  
 Home Builders Institute Pre-Apprentice Cert Training (HBI-PACT)--Preferred (3)  
 NC3 Certs--Trane and Snap-On Precision Measurements Instruments Cert--Preferred (3)  
 HVAC Excellence--Valued (2)  
 NCCER Carpentry I and II--Preferred (3)  
 NCCER Core & Construction Tech--Valued (2)  
 NCCER Electrical Level 1--Preferred (3)  
 NCCER HVAC 1&2, Plumbing 1, Welding 1&2--Preferred (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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
BUS					Business Management and Administration CLUSTER Enrollment																	28,946	22,391	28,229
BUS				A77	Business Office Technology		2			No	NCR	3	3	10	4									
BUS				332	CTECS: Administrative Services		2			No	NCR							6	6	4	1			
BUS				333	CTECS: Business Information Management		2			No	NCR							15	11	6	4			
BUS				334	CTECS: General Management		2			No	NCR							33	20	21	17			
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	779	704			
BUS				168	Entrepreneurship and Small Business Certification		2			No	NCR			120	97			79	54	151	107			
BUS				19	IC 3 (Internet and Computer Core Certification)			3	1	Yes	CR			11	11	2	2			1	1			
	IT																			228	151			
		FIN																						
BUS				85	Microsoft Digital Literacy Certification	1				No	NCR	72	72	144	144	1	1			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	30	27			
BUS	FIN			103	MOS Office 2016 – Excel 2016 Expert			3	B	Yes	CR													
BUS				106	MOS Office 2016 – Outlook 2016		2		B	No	NCR													
BUS				104	MOS Office 2016 – PowerPoint 2016		2		B	No	NCR							3	3	32	26			
BUS				100	MOS Office 2016 – Word 2016		2		B	No	NCR									53	51			
BUS				101	MOS Office 2016 – Word 2016 Expert			3	B	Yes	CR									1	1			
BUS				A36	MOS: Microsoft Office Access 2013			3	B	Yes	CR	2	1	2	1	4	2			1	1			
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	5	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	25	25			
BUS	FIN	MRK		379	Precision Exams: Business Communications I	1				No	NCR									9	9			
BUS				380	Precision Exams: Business Management	1				No	NCR									27	27			
BUS				315	Precision Exams: Desktop Publishing I	1				No	NCR													
BUS				414	Precision Exams: Desktop Publishing II		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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
BUS					Business Management and Administration CLUSTER Enrollment																	28,946	22,391	28,229
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	14	14			
BUS	FIN			383	Precision Exams: General Financial Literacy	1				No	NCR									4	4			
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	68	68			
BUS				158	QuickBooks Certified User			3		Yes	CR							10	10	1	1			
	FIN																			12	12			
BUS	FIN	MRK	IT	440	Microsoft 365 Certified TEAMS Administrator Associate--Added March 2021			3												2	2			
BUS	FIN	MRK	IT	435	MOS: Microsoft Office Access Expert 2019--Added March 2021			3	B															
BUS	FIN	MRK	IT	436	MOS: Microsoft Office Excel Associate 2019--Added March 2021			3	B											1	1			
BUS	FIN	MRK	IT	437	MOS: Microsoft Office PowerPoint Associate 2019--Added March 2021			3	B											1	1			
BUS	FIN	MRK	IT	438	MOS: Microsoft Office Word Associate 2019--Added March 2021			3	B											1	1			
BUS	FIN	MRK	IT	439	MOS: Microsoft Office Word Expert 2019--Added March 2021			3	B															
BUS	FIN	MRK	IT	441	Office 365--Added March 2021			3	B															
BUS	FIN	MRK	IT	442	TOSA DigiComp--Added March 2021			3	B															
BUS	FIN	MRK	IT	444	TOSA Illustrator--Added March 2021			3	B															
BUS	FIN	MRK	IT	443	TOSA InDesign--Added March 2021			3	B															
BUS	FIN	MRK	IT	445	TOSA Photoshop --Added March 2021			3	B															
BUS	GOV	MRK		434	PMI Project Management Ready--Added March 2021																			
					Total Certifications Administered and Earned for the Cluster							1,338	1,164	1,633	1,443	1,075	1,053	984	871	1,478	1,261			

B--Designates that certifications should be bundled as either Tier 1 or 2

OH

no other high value certs

Note: QuickBooks--3 pts (1)

all MOS certs regardless of type/year--3 pts (1)

adding Adobe certs in 22/23--4 pts (2)

LA

no other high value certs

no MOS certs listed

GA

no other high value certs

NC

only high value cert: HRCI Assoc Professional in HR (aPHR)--Career (3)

only MOS certs: Specialist 2016 or above (Access, Excel Core and Expert)--Essential (2)

Quickbooks Cert User--Essential (2)

TN

Quickbooks Cert User--Preferred (3)

MOS Expert Ce|rt (Word, Excel, Access)--Preferred (3)

MOS Assoc Cert--Valued (2)

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BUS					Business Management and Administration CLUSTER Enrollment																	28,946	22,391	28,229

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
EDU					Education and Training CLUSTER Enrollment																	4,395	4,581	4,627
EDU				A64	Advanced Child Care Training		2		1	No	NCR			1	1			7	7	6	6			
EDU	HUM			40	American Red Cross--Babysitting			3	1	No	NCR	23	21	1	1					48	48			
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	35	14			
EDU				70	Education Fundamentals Assessment/Certification			3	B	Yes	CR	13	9	14	9			8	8	5	3			
EDU				A17	ParaPro Assessment			3		Yes	CR			12	8	4	3	6	4	4	4			
EDU				268	Praxis Core			3		Yes	CR							3	3	2	2			
EDU	HUM			385	Precision Exams: Child Development		2			No	NCR									10	10			
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	142	122			
EDU				59	South Carolina Early Childhood Credential			3		Yes	CR	7	7	39	39	14	14	33	33	23	23			
EDU				A13	Teen Babysitting Class	1				No	NCR			1	1			21	10	12	10			
EDU	HOSP	HUM	STEM	433	Kid's Nutrition Specialist Cetrification--Added Mar 2021			3	2															
EDU	HOSP	HUM	STEM	49	ServSafe Food Handler			3	2	Yes										33	33			
					Total Certifications Admiistered and Earned for the Cluster							195	150	179	129	52	51	169	152	320	275			

**OH**  
no other high value certs  
ParaPro Assessment--6 pts (2)  
adding ServSafe Food Handler 22/23--1 pt (1)

**LA**  
no certs listed

**GA**  
no other high value certs

**NC**  
only cert listed: NC Early Childhood Credential  
Equivalency--Essential (2)

**TN**  
CDA Child Dev Assoc--Preferred (3)  
AAFCS Educ Fundamentals--Recognized (1)  
ParaPro Assessment--Recognized (1)

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
FIN					Finance CLUSTER Enrollment																	13,447	16,984	19,325
FIN				08	Academy of Finance		2			No	NCR					1	1							
FIN				337	CTECS: Accounting		2			No	NCR							15	11	9	5			
FIN				338	CTECS: Business Finance		2			No	NCR							5	0	8	1			
FIN				A30	Financial Literacy	1				No	NCR	297	276	789	697	948	876	1,256	1,221	1,081	909			
FIN				250	Sage 50 Peachtree Accounting Certification			3	2	Yes	CR													
FIN				246	SC Property and Casualty Producer License			3		Yes	CR													
FIN				A10	WISE – Financial Literacy Certification Program (FLCP)		2		1	No	NCR	3,454	2,892	3,961	3,371	1,159	1,108	488	350	462	353			
FIN				322	ICEV Personal Financial Literacy Certification		2		1	No	NCR							3	2	8	8			
FIN				378	Precision Exams: Accounting II		2			No	NCR							2	2	8	2			
FIN				387	Precision Exams: Banking and Finance	1				No	NCR									1	1			
					Total Certifications Administered and Earned for the Cluster							3,751	3,168	4,750	4,068	2,108	1,985	1,769	1,586	1,577	1,279			

**OH**  
combined with BUS and MKTG

**LA**  
no certs listed

**GA**  
no other high value certs

**NC**  
only certs listed: NC Dept of Insurance--career AIPB Certified Bookkeeper--Essential (2)

**TN**  
no other high value certs

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Currently CR Approved	CR Status	Certs Admin FY18 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
GOV	BUS	FIN	MRK	349	Precision Exams by YouScience: Leadership Principles I				No	NCR													
GOV				350	Precision Exams: Leadership Principles II		2		No	NCR							0	0			New Pathway	21	22
					Total Certifications Administered and Earned for the Cluster												0	0					

OH  
no pathway

LA  
none

GA  
none

NC  
no pathways

TN  
none

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
HLTH					<b>Health Science CLUSTER Enrollment</b>																	32,046	31,137	31,603
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	1,147	1,095							
HLTH				166	Certified Clinical Medical Assistant			3		Yes	CR	21	16	13	12	11	7	18	13	47	37			
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	22	18			
HLTH				A74	Certified Medical Billing and Coding Specialist			3		Yes	CR	1	1	1	1			10	5	13	11			
HLTH				12	Certified Nurse Aide			3		Yes	CR	890	757	826	758	241	225	665	619	680	614			
HLTH				A66	Certified Patient Care Technician (CPCT)			3		Yes	CR	26	26	35	24	20	17	97	90	105	97			
HLTH				265	Certified Personal Trainer			3		No	CR									19	0			
HLTH				A68	Community Emergency Response Team		2			No	NCR							19	19					
	LAW																			10	10			
HLTH				251	Direct Support Professional			3		Yes	CR							14	14	19	19			
HLTH				51	Electrocardiographic (EKG) Technician			3		Yes	CR	11	11	53	36			72	53	113	99			
HLTH				15	Emergency Medical Technician			3		Yes	CR	5	4	19	19	19	19	17	17	13	13			
HLTH	EDU	HUM		418	First Aid		2		2	No	NCR							28	28	159	159			
HLTH	HUM	EDU		44	First Aid/CPR/AED		2		2	No	NCR	3,790	3,748	2,498	2,489	2,434	2,310	2,097	2,040	2,929	2,923			
HLTH				18	First Responder			3	2	Yes	CR	41	41	96	93	201	200	69	68	51	50			
HLTH				A50	Heads Up: Concussion in Youth Sports		2		1	No	NCR	325	307	170	163	279	279	335	335	591	591			
HLTH				A93	Healthcare Providers Basic Life Support (BLS)			3	2	Yes	CR	1,784	1,752	2,085	2,070	2,703	2,649	3,175	3,135	4,917	4,852			
HLTH				A60	Heat Illness Prevention		2		1	No	NCR	322	320	141	141	393	391	501	487	545	533			
HLTH				24	National Health Science Assessment			3	2	Yes	CR	1,196	756	1,241	839	510	336	998	674	1,095	682			
HLTH				A51	Paid Feeding Assistants		2			No	NCR	104	102	90	90	31	31	25	25	57	57			
HLTH				35	Pharmacy Technician			3		Yes	CR	7	7	45	33	18	18	51	51	72	52			
HLTH				52	Phlebotomist			3		Yes	CR	12	12	47	29	8	8	13	10	14	8			
HLTH				266	Physical Therapy Aide			3		No	CR							10	10	18	8			
HLTH				393	Precision Exams: Biotechnology	1			2	No	NCR							2	2	1	1			
HLTH				394	Precision Exams: Clinical Laboratory Technology	1			2	No	NCR													
HLTH				395	Precision Exams: Dental Assistant – Dental Science I	1				No	NCR													
HLTH				396	Precision Exams: Dental Assistant – Dental Science II	1			2	No	NCR													
HLTH				397	Precision Exams: Dental Assistant – Dental Science III		2		2	No	NCR													
HLTH				399	Precision Exams: Exercise Science and Sports Medicine	1			2	No	NCR									25	5			
HLTH				400	Precision Exams: Health Science Fundamentals	1			2	No	NCR							46	39	49	34			
HLTH				401	Precision Exams: Medical Anatomy and Physiology		2			No	NCR							2	2	7	3			

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HLTH					<b>Health Science CLUSTER Enrollment</b>																	32,046	31,137	31,603
HLTH				402	Precision Exams: Medical Assistant – Anatomy and Physiology	1			2	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			2	No	NCR									41	34			
HLTH				407	Precision Exams: Medical Terminology		2			No	NCR									11	3			
HLTH	HUM			408	Precision Exams: Nutrition and Wellness	1			2	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			2	No	NCR													
HLTH	HUM			264	Sports Nutrition		2			No	NCR					14	14	253	237	303	302			
HLTH				263	Sudden Cardiac Arrest		2			No	NCR					72	72	325	309	312	312			
				446	Stop the Bleed (added March 2021)			3	1											624	622			
HLTH				466	First Aide for Severe Trauma (FAST) added spring 2022		2																	
HLTH				467	Health Insurance Portability and Accountability Act - HIPAA Awareness Training for Healthcare Providers added March 22		2																	
HLTH	AG			261	Veterinary Assistant Certification			3																
					<b>Total Certifications Administered and Earned for the Cluster</b>							8,924	8,246	7,974	7,361	8,138	7,687	8,862	8,302	12,862	12,149			





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HOSP					Hospitality and Tourism CLUSTER Enrollment																	7,613	6,799	6,874
HOSP				447	American Meat Science Association (AMSA) Culinary Meat Selections & Cookery Certification-Added March 2021			3																
HOSP				A43	ACF Commercial Baking			3											2	2				
HOSP				468	Hospitality and Tourism Specialist (HTS) Credential			3																
					Total Certifications Administered and Earned for the Cluster							1,559	1,353	2,169	1,961	1,502	1,362	2,275	16,724	3,400	3,107			

OH

ANFP Certified Dairy Mgr (3)  
ACF Certified Culinarian (3)  
ProStart Cert of Achievement (3)  
NRF Business of Retail; RISE Up  
Customer Service and Sales; RISE  
Up Retail Ind Fundamentals - all  
(2)  
ServSafe Mgr, Food Handler,  
Workplace (1)  
OSHA 10/30 (1)  
AHLEI Hosp & Tourism Mgt (1)

LA

NRA ManageFirst  
Professional (3)

GA

ACF-CFC  
ACF-Secondary Culinary  
Graduate  
NOCTI-Cook Level 2  
ProStart  
NOCTI Hosp Mgt  
NOCTI Lodging  
NOCTI Travel & Tourism

NC

ANSI Accredited Food  
Protection Mgr (2)  
Certified Fundamentals  
Cook (CFC) (3)  
ProStart Ntl Cert of  
Achievemnt-COA (3)

TN

AMSA Culinary Meat Selection &  
Cookery Cert (1)  
AMSA Food Safety & Science  
Cert (2)  
AMSA Meat Evaluation Cert (2)  
Certified Fundamentals Cook  
(CFC) (3)  
Certified Hospitality & Tourism  
Professional (3)  
ServSafe Manager Cert (3)

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggesgtd Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
HUM					Human Services/Family and Consumer Sciences CLUSTER Enrollment																	12,673	13,008	18,502
HUM				204	Barber Assistant--DELETED			3	2	No	CR			9	9									
HUM				66	Broad Field Family and Consumer Sciences Assessment/Certification			3		Yes	CR							6	4	24	19			
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					1	1			
HUM				68	Personal and Family Finance Assessment/Certification			3		No	CR			2	2					1	1			
HUM				205	Registered Barber Apprentice--DELETED			3		No	CR													
HUM				A72	S/P2 – Cosmetology		2			No	NCR	21	21	65	65	30	30	19	19	48	48			
HUM				39	South Carolina Cosmetology License			3		Yes	CR	427	383	444	371	34	34	276	259	326	311			
HUM				A28	South Carolina Esthetician			3		Yes	CR	5	5	18	18			25	24	23	23			
HUM	BUS	IT	MRK	A27	South Carolina Hair Braiding Registration			3	B	Yes	CR	7	7	45	45	21	21	67	67	57	57			
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	29	29			
HUM				A26	South Carolina Registered Barber License			3		Yes	CR	3	2	10	6			4	1	6	6			
HUM	HOS	STEM		361	Food Safety Manager Training and Certification			3		No	CR													
HUM				448	Barbicide Certification--Added March 2021		2													222	222			
HUM				449	Lucas-Cide Certification--Added March 2021		2		1											8	8			
HUM				469	School Mental Health Certification		2																	
HUM				470	Student Mental Health and Suicide Prevention		2																	
HUM				471	Teen Mental Health First Aid (tMHFA)		2																	
					Total Certifications Admiistered and Earned for the Cluster							555	490	677	584	90	90	432	409	745	725			

OH

high value certs are OH licensure specific

Lean Six Sigma Belts various levels

OSHA 10/30 (1)

LA

none

TN

Certified Feeding Assistant (3)

Hair Braider Registration (3)

Natural Hair Stylist License (3)

ServSafe Food Handler (3)

Registered Behavior Tech (3)

GA

AAFCS Food Science

AAFCS Nutrition Wellness

ServSafe Food Handler

ServSafe Manager

Cosmetology - NOCTI

NC

ANSI-Accredited Food Protection Mgr (2)

Food Safety and Science Cert (3)

CGSP (2)

No Cosmetology Certs

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
IT					<b>Information Technology CLUSTER Enrollment</b>																	43,337	58,078	82,569
IT				02	Academy of Information Technology			3	2	No	CR													
IT				160	ACE – Web Communications with Animate CC			3		No	CR					14	14	4	3	18	18			
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	8	8			
IT				14	Cisco Certified Network Associate			3		Yes	CR							1	1	3	3			
IT				279	CISSP: Certified Information Systems Security Professional			3		Yes	CR													
IT				302	CIW Advanced HTML5 & CSS3 Specialist			3		Yes	CR					6	1			2	2			
IT	BUS			305	CIW Data Analyst			3		Yes	CR													
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	66	36			
IT	MAR			304	CIW Social Media Strategist			3		Yes	CR									8	8			
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	11	11			
IT				167	CIW Web Security Associate			3		No	CR					41	7	5	2	9	9			
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	11	11			
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									1	0			
IT				341	CTECS: Computer Programming with Visual Basic		2			No	NCR							2	2	2	2			
IT				342	CTECS: Information Support and Services		2			No	NCR							7	5	1	1			

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
IT					Information Technology CLUSTER Enrollment																	43,337	58,078	82,569
IT				343	CTECS: Networking Systems		2			No	NCR									7	1			
IT				344	CTECS: Web and Digital Communications		2			No	NCR							2	2	9	8			
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													
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			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									5	5			
IT				413	Precision Exams: Computer Programming II Python			3		No	CR							16	7	9	5			
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			1	1			
IT				321	TestOut IT Fundamentals Pro		2			No	NCR							15	15	86	62			
IT				A19	TestOut Network Pro Certification			3		Yes	CR	11	3	10	7			8	7	23	10			
IT				A18	TestOut PC Pro Certification			3		Yes	CR	69	38	95	59	38	21	36	31	139	69			
IT				290	TestOut Routing Pro Certification			3		Yes	CR			2	0									
IT				A41	TestOut Security Pro Certification			3		Yes	CR									10	10			
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													

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
IT					Information Technology CLUSTER Enrollment																	43,337	58,078	82,569
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 Certification Level 1--Added March 2021			3																
IT				472	App Development with Swift Associate			3																
IT				473	App Development with Swift Certified User			3																
IT				474	CEPP-Certified Expert in Python Programming			3																
IT				475	CLA-C Programming Language Certified Associate Certification			3																
IT				476	CLE-C Certified Entry-Level Programmer Certification			3																
IT				477	CLP-C Certified Professional Programmer Certification			3																
IT				478	CPA-C++ Certified Associate Programmer Certification			3																
IT				479	CPE-C++ Certified Entry-Level Programmer Certification			3																
IT				480	CPP-C++ Certified Professional Programmer Certification			3																
IT				481	Cybersecurity Level 1 Certified			3																
IT				482	Cybersecurity Level 2 Certified			3																
IT				483	Dell Client Foundation and Enterprise Self-Dispatch Certification			3																
IT				484	IT Automation with Python Certificate			3																
IT				485	IT Support Certificate			3																
IT				486	Java Level 1 Certified			3																
IT				487	JavaScript Level 1 Certified			3																
IT				488	PCEP-Certified Entry-Level Python Programmer			3																
IT				489	PCPP1-Certified Professional in Python Programming 1			3																
IT				490	PCPP2-Certified Professional in Python Programming 2			3																
IT				491	Precision Exam by YouScience: Computer Programming I			3																
IT				492	Python Level 1 Certified			3																
IT				493	TestOut CyberDefense Pro Certifications			3																
IT				494	Web Design Level 1 Certified			3																
IT				495	Web Development Level 1 Certified			3																
					Total Certifications Administered and Earned for the Cluster							141	85	213	146	168	66	182	125	430	281			

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
LAW					<b>Law and Public Safety CLUSTER Enrollment</b>																	3,584	3,546	3,453
LAW				222	Basic Auto Extrication Firefighter			3	B	Yes	CR			28	28	27	27	42	38	17	17			
LAW				A29	Emergency Telecommunicator Certification			3	B	Yes	CR	42	42	27	27	22	22	39	35	62	62			
LAW				A11	ETC Certification Course		2		B	No	NCR	3	2			42	40	21	19	14	13			
LAW				324	Expert Rating: Legal Administrative Assistant Certification			3		No	CR									4	4			
LAW				231	Hazardous Materials Awareness (Firefighter)			3	B	Yes	CR			107	107	89	89	237	235	216	213			
LAW				232	Hazardous Materials Operations (Firefighter)			3		Yes	CR			99	97	95	88	156	152	175	172			
LAW				233	Hybrid Firefighter I Class Code 1402			3	B	Yes	CR			17	17	7	7	24	23	5	5			
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	182	182			
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	30	25			
LAW				165	SCFA Certificate Auto Extrication --3330		2			No	NCR			52	52	21	21	53	53	67	66			
LAW				161	SCFA Certificate NFPA 1001 Firefighter I -- 1196			3	B	Yes	CR			74	71	54	49	253	242	152	133			
LAW				162	SCFA Certificate NFPA 1001 Firefighter II -- 1197			3		Yes	CR			59	58	33	32	70	70	55	53			
LAW				455	Precision Exams: Criminal Justice 1--Added March 2021			3	B											12	6			
LAW				456	Precision Exams: Criminal Justice 2--Added March 2021			3																
LAW				458	Professional Security Officer Certificate--Added March 2021			3												17	17			
					<b>Total Certifications Administered and Earned for the Cluster</b>							67	66	649	639	559	522	1,054	1,021	1,008	968			

**OH**

OH EMT Basic, Intermediate, Paramedic, Firefighter I, II (3)  
 OH Correctional Officer (3)  
 NECC Level 1 Telecommunicator (3)  
 NECI 9-1-1 Basic (3)  
 OSHA HAZWOPER Tech (2)  
 AMCA Mental Health Tech (2)  
 IFPO Certified Protection Officer (2)  
 FAA Part 107 Remote Pilot (2)  
 APCO Telecommunicator (2)  
 FEMA Natl Incident Mgt (2)  
 USI Small UAS Safety Cert Level 1 and 2 (2)  
 USI VSO Flight Cert (2)  
 USI VSO Ground Cert (2)  
 Many other (1) certs

**LA**

IAED Emergency Telecommunicator Certification (911 Dispatch) (ETC) AND  
 Emergency Police Dispatch (EPD),  
 Emergency Fire Dispatch (EFD) OR Emergency Medical Dispatch (EMD) (3)

**GA**

Corrections - LPSSC, NOCTI, Precision, SkillsUSA  
 Criminal Investigations - LPSSC, NOCTI, Precision, Skills USA  
 FEMA Emergency Medical Responder  
 NREMT Emergency Medical Responder  
 Firefighting - FEMA, NOCTI  
 FEMA Public Safety Comms  
 Forensics - LPSSC, NOCTI, Precision, Skills USA  
 Legal Admin Svcs - OKCareer Tech  
 Security - LPSSC, NOCTI, Skills USA

**NC**

CPO (2)  
 Several Level 1s for Fire  
 NC Specific for Emergency Mgt (2)  
 National Incident Management System (2)  
 NECI 911 Basic Communications (2)

**TN**

FAA Part 107 (3)  
 Several Level 1s for Fire Mgt  
 Unarmed Security Guard (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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
MAN					Manufacturing CLUSTER Enrollment																	6,520	6,021	6,090
MAN				07	AWS			3		Yes	CR	248	213	273	234	127	94	287	257	279	248			
MAN				171	Certified Production Technician			3		No	CR									1	1			
MAN				345	CTECS: Welding Technology		2			No	NCR							90	47	100	82			
MAN				10	Electronics Technician			3		Yes	CR	11	11	4	4	14	1	8	3	2	2			
MAN	TRA			235	LEAN (Six Sigma) Manufacturing Certification			3	2	Yes	CR			62	62	41	41	29	29	63	63			
MAN				419	MSSC: Certified Logistics Technician			3		No	CR													
MAN				236	MSSC: CPT Maintenance Awareness			3	2	Yes	CR			11	9					1	1			
MAN				237	MSSC: CPT Manufacturing Processes and Production			3	2	Yes	CR			13	8					1	1			
MAN				238	MSSC: CPT Quality Practices			3	2	Yes	CR			24	19	9	9	10	4	2	2			
MAN				239	MSSC: CPT Safety			3	2	Yes	CR			51	48	11	11	30	12	1	1			
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	43	43			
MAN				33	NIMS			3		Yes	CR	114	114	83	82	44	43	123	112	124	122			
MAN				255	S/P2 – Welding Safety and Pollution		2		1	No	NCR							65	64	27	27			
MAN				172	Siemens Mechatronics Systems Certification			3		No	CR													
					Total Certifications Administered and Earned for the Cluster							483	445	611	556	299	252	701	587	644	593			



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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
MRK					Marketing CLUSTER Enrollment																	7,736	8,813	8,887
MRK				206	Bing Ads (Microsoft Advertising Certification)			3	2	Yes	CR			1	0					38	24			
MRK				346	CTECS: Marketing Communications		2			No	NCR							2	2	43	30			
MRK				347	CTECS: Marketing Management		2			No	NCR							2	2	25	16			
MRK				348	CTECS: Merchandising		2			No	NCR									26	22			
MRK				211	Facebook Certified Media Planning Professional			3	2	Yes	CR													
MRK				212	Google Advertising Fundamentals Exam (Google AdWords)			3		Yes	CR					27	19	10	10	126	72			
MRK				213	Google Analytics			3		Yes	CR									14	14			
MRK				388	Precision Exams: Advertising and Promotion	1				No	NCR									77	77			
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	22	22			
MRK				214	Retail Industry Fundamentals, National Retail Federation			3	2	Yes	CR													
MRK					Total Certifications Admiistered and Earned for the Cluster									1	0	27	19	25	25	371	277			

OH

no other high value certs

NRF Business of Retail, RISE Up Cust Serv & Sales, RISE Up Retail Ind Funds (2) Tableau Desktop Cert (2) Adobe After Effects, Animate, Dreamweaver, Illustrator, InDesign, Photoshop, Premiere Pro - 4 pts (2)

Many MOS Certs - all 3 pts (1) Google Analytics (1) OSHA 10/30 (1) - OSHA 30 changing to 3 pts in 22/23

LA

Amazon Web Services Foundational & Associate (3)

TN

Hootsuite Platform & Social Media Cert (2) Microsoft Office Specialist Certification (3) MOS Excel Associate Certification (2) MOS Excel Expert Certification (3)

GA

Retail Mgt - ASK, MBA Research, NOCTI, OK Career Tech Same for Mktg Comms & Mktg Mgt

NC

Customer Serv & Sales (2) Fundamental Marketing Concepts (2)

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STEM					STEM CLUSTER Enrollment																	10,933	9,361	30,156
STEM				A55	Autodesk Inventor Certified User Exam			3		Yes	CR	68	58	217	172	63	63	70	60	54	48			
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	73	37			
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	25	25			
STEM				369	Precision Exams: Robotics I	1				No	NCR													
STEM				370	Precision Exams: Robotics II	1				No	NCR													
STEM				169	Pre–Engineering Certification			3	2	No	CR							18	5	4	4			
STEM				170	Robotics Certification			3	2	No	CR													
					Total Certifications Administered and Earned for the Cluster							117	69	301	226	120	101	152	99	156	114			

OH

Pathway: Engineering  
National Association of Stationary Operating Engineers  
3rd Class Power Engineer License (3)  
NICET Level 2 or Higher (3)  
ASQ Certified Quality Inspector (4)  
NCCER Level 2 (3)  
Allen Bradley/Rockwell Automation PLC (2)  
AutoCad, Revit Electrical, Revit Mechanical; Revit  
Structure, Inventor,Maya, Civil 3D, 3DS Max (2) - **Pro**  
Solidworks **Pro** (2)  
Several FANUC Certs (2)  
Several NCCER Level 1 Certs (2)  
Siemens PLC (2)  
Autodesk **User** Certs (2)  
Accelerated Logix 5000 Maintainer & Programmer Level 1  
(2)  
ETA Photovoltaic Installer Level 1 (2)  
Several SACA Certs - 4 pts (2)  
Forklift Operation (1)  
PMI Proj Mgt - 3 pts (1)

LA

Autodesk Certified User  
Inventor (3)

TN

Autodesk Inventor Certified User  
(2)  
Certified Solidworks Associate  
(CSWA) Academic (3)  
FANUC Robotics (3)

GA

Electronics - NOCTI, SkillsUSA  
Eng Drafting/Design - ADDA  
Apprentice Mechanical,  
ADDA Drafter-Mechanical  
Autodesk AutoCAD,  
Autodesk Inventor, CWSA,  
NOCTI, SkillsUSA

NC

ETA EM 1, 2, 3 (2)  
Autodesk Certified User  
Inventor (3)  
CSWA (3)

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TRA					<b>Transportation, Distribution and Logistics CLUSTER Enrollment and Totals</b>																	5,884	5,534	5,511
TRA				107	ASE Medium/Heavy Duty Diesel Engine			3	2	Yes	CR	17	12	10	4	7	4	12	6	21	19			
TRA				191	ASE: Auto Collision Repair – Mechanical and Electrical Components			3	2	Yes	CR	114*	59*	10	9	1	1			2	1			
TRA				193	ASE: Auto Collision Repair – Non–Structural Analysis and Damage Repair			3	2	Yes	CR			95	36	20	9	31	15	69	24			
TRA				192	ASE: Auto Collision Repair – Painting and Refinishing			3	2	Yes	CR			95	42	22	13	41	25	78	36			
TRA				190	ASE: Auto Collision Repair – Structural Analysis and Damage Repair			3	2	Yes	CR			5	5	1	1			2	1			
TRA				189	ASE: Auto Maintenance and Light Repair Certification Test (G1)			3	2	No	CR			51	39	21	10	100	74	152	100			
TRA				199	ASE: Auto Technology – Automatic Transmission/Transaxles			3	2	Yes	CR	686*	412*	18	18	16	11	29	29	55	29			
TRA				194	ASE: Auto Technology – Brakes			3	2	Yes	CR			346	215	201	151	385	23	402	235			
TRA				196	ASE: Auto Technology – Electrical/Electronic Systems			3	2	Yes	CR			32	32	36	31	59	55	75	53			
TRA				197	ASE: Auto Technology – Engine Performance			3	2	Yes	CR			42	36	29	23	42	39	107	51			
TRA				198	ASE: Auto Technology – Engine Repair			3	2	Yes	CR			62	46	51	43	54	54	132	77			
TRA				201	ASE: Auto Technology – Heating & Air Conditioning			3	2	Yes	CR			20	19	23	19	35	35	58	31			
TRA				202	ASE: Auto Technology – Maintenance & Light Repair			3	2	Yes	CR			321	224	178	148	330	241	300	210			
TRA				200	ASE: Auto Technology – Manual Drivetrains			3	2	Yes	CR			15	13	16	10	39	35	58	26			
TRA				195	ASE: Auto Technology – Suspension & Steering			3	2	Yes	CR			109	75	54	46	84	75	122	70			
TRA				175	ASE: Automobile & Light Truck Certification Tests (A Series)--DELETE			3		No	CR			37	37					1	1			
TRA				177	ASE: Collision Repair & Refinish Certification Tests (B Series)--DELETE			3		No	CR			4	2									
TRA				178	ASE: Damage Analysis & Estimating Certification Test (B6)--DELETE			3		No	CR													
TRA				182	ASE: Medium–Heavy Truck Certification Tests (T Series)--DELETE			3		No	CR			6	4			16	11	11	9			
TRA				188	ASE: Non–Certification Assessments--DELETE			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					1	0			
TRA				108	Commercial Driver's License Permit			3	2	Yes	CR			3	3	4	4			1	1			
TRA				249	Digital Multimeter (DMM) Certification 525			3	2	No	CR							1	1	45	45			
TRA				229	EPA Section 609 Certification			3		Yes	CR			23	23			81	81	24	24			
TRA				230	Forklift Operator			3	1	Yes	CR			62	60	18	18	49	48	73	73			

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
TRA					Transportation, Distribution and Logistics CLUSTER Enrollment and Totals																	5,884	5,534	5,511
TRA				112	I-CAR Advance High Strength Steel (AHSole)			3	B	No	CR	1	1	3	3	12	12	10	10	12	12			
TRA				113	I-CAR Automotive Foams (FOM01)			3	B	No	CR					17	17	27	27	32	32			
TRA				114	I-CAR Automotive Lighting (LSC04e)			3	B	No	CR	18	16	7	7	53	53	35	35	50	50			
TRA				115	I-CAR Bolt-on-Exterior Panel Part 1 (EXT03e)			3	B	No	CR	21	21	17	17	76	68	66	62	70	67			
TRA				116	I-CAR Bolt-on-Exterior Panel Part 2 (EXT04e)			3	B	No	CR	6	6	10	10	64	55	62	59	60	60			
TRA				117	I-CAR Corrosion Protection (CPS01)			3	B	No	CR					11	3	36	20	4	4			
TRA				118	I-CAR Cosmetic Straightening Steel (STS01)			3	B	No	CR	2	2			86	76	41	39	16	16			
TRA				119	I-CAR Detailing (REF04)			3	B	No	CR					1	1	33	23	7	7			
TRA				120	I-CAR Hazardous Air Pollutant Reduction (HAP01e)			3	B	No	CR	5	5	1	1	30	29	28	28	37	37			
TRA				121	I-CAR Hazardous Material Storage and Disposal (HWD01e)			3	B	No	CR	43	42	10	9	30	30	21	20	34	34			
TRA				122	I-CAR Hazardous Materials, Personal Safety, Refinish Safety (WKR01)			3	B	No	CR	1	1	2	2	74	48	31	27	23	23			
TRA				123	I-CAR Intro to Construction Materials (ICM00e)			3	B	No	CR	53	50	44	44	108	104	101	101	85	80			
TRA				124	I-CAR Intro to Mechanical Repair Terms and Vehicle Protection (IMV00e)			3	B	No	CR	35	35	36	36	105	102	93	91	79	78			
TRA				125	I-CAR Intro to Mechanical System Terminology Part 1 (IMT01e)	1			B	No	NCR	66	64	58	58	116	115	91	89	82	79			
TRA				126	I-CAR Intro to Mechanical System Terminology Part 2 (IMT02e)	1			B	No	NCR	46	46	43	43	114	112	102	99	76	73			
TRA				127	I-CAR Intro to Personal Safety (IPS00e)	1			B	No	NCR	112	112	112	112	150	149	75	74	142	142			
TRA				128	I-CAR Intro to Refinishing and Corrosion Protection Part 1 (IRC01e)			3	B	No	CR	44	44	55	55	144	140	85	81	134	128			
TRA				129	I-CAR Intro to Refinishing and Corrosion Protection Part 2 (IRC02e)			3	B	No	CR	36	36	48	48	112	109	86	81	126	123			
TRA				130	I-CAR Intro to Repair Process (IRP00e)			3	B	No	CR	54	54	51	49	138	133	83	82	101	94			
TRA				131	I-CAR Intro to Repair Terminology (IRT00e)	1			B	No	NCR	45	45	39	39	107	106	99	98	69	69			
TRA				132	I-CAR Intro to Safety Systems (ISS00e)	1			B	No	NCR	86	78	86	85	135	134	80	78	81	76			
TRA				133	I-CAR Intro to Tools, Equipment and Attachment Methods Part 1 (ITM01e)	1			B	No	NCR	46	42	66	66	144	143	93	91	95	92			
TRA				134	I-CAR Intro to Tools, Equipment and Attachment Methods Part 2 (ITM02e)	1			B	No	NCR	30	29	74	72	144	141	84	82	75	73			
TRA				135	I-CAR Intro to Vehicle Parts Terminology Part 1 (IVT01e)	1			B	No	NCR	56	53	66	66	128	127	101	100	91	90			
TRA				136	I-CAR Intro to Vehicle Parts Terminology Part 2 (IVT02e)	1			B	No	NCR	58	58	37	37	121	120	93	92	79	78			
TRA				137	I-CAR Movable Glass (GLA01)			3	B	No	CR					8	8	6	6	1	1			
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	50	46	12	12			
TRA				109	I-CAR ProLevel 1			3	B	Yes	CR	4	4	24	24	14	14	33	33	70	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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)	19-20 Enrollment	20-21 Enrollment	21-22 Enrollment
TRA					Transportation, Distribution and Logistics CLUSTER Enrollment and Totals																	5,884	5,534	5,511
					B--Designates Certifications that should be bundled-- reducing those in tier 3 to either tier 1 or 2																			
					Total Certifications Admiistered and Earned for the Cluster							1,437	1,404	3,441	2,949	4,198	3,868	4,532	3,887	4,933	4,177			

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 (22,805)	Certs Passed FY 18 (20,197)	Certs Admin FY 19 (30,773)	Certs Passed FY 19 (27,575)	Certs Admin FY20 (29,561)	Certs Passed FY20 (27,223)	Certs Admin FY21 (39,250)	Certs Passed FY21 (36,145)	Certs Admin FY22 (51,720)	Certs Passed FY22 (46,714)
ALL				A78	Career Preparedness		2		B	No	NCR	12	4	35	26	7	7	11	11	55	52
ALL				323	Charlotte Works: Working Smart	1				No	NCR										
ALL				262	FAA Part 107 UAV License	1				No	NCR					1	1	12	11	63	47
ALL				A94	Microburst EmployABILITY Soft Skills Certification			3	B	Yes	CR	411	383	2,375	2,100	4,092	3,535	5,021	4,721	8,655	7,542
ALL				63	OSHA 10 General			3	1	Yes	CR	1,787	1,603	2,502	2,395	3,801	3,595	11,089	10,432	12,644	11,914
OTHER					OSHA 10				1					1,644	1,547						
					OSCHA 10 General On Line Modules (data from FY 20)				1							2,119	2,039				
ALL				425	Skills USA Career Essentials Certification			3	2	No	CR										
ALL				427	Career and Life Essentials --Added March 2021		2		1	No											
ALL				428	Career Prep-A Virtual Career Guidance Center--Added March 2021		2		1	No											
ALL				430	Leadership Essentials--Added March 2021			3	B												
ALL				429	Soft Skills Pro-Industry Certificaion--Added March 2021			3	B												
					Total Certifications Admiistered and Earned							2,210	1,990	6,556	6,068	10,020	9,177	16,133	15,175	21,417	19,555

OH  
1--1-3 pts  
2--6 pts  
3--12 pts

GA

Please note that Georgia focuses on End of Pathway Assessments at this time. Certifications referenced here would be at the Tier 2 or 3 Level.

LA

1 or 2--Basic  
3--Advanced

NC

2--Essential  
3--Career

TN

1--Recognized  
2--Valued  
3--Preferred



# ANALYSIS OF SOUTH CAROLINA SCHOOL CLIMATE SURVEY FREE RESPONSES

**Prepared For :**

The South Carolina Education Oversight Committee

**Submitted By :**

Amber Adgerson

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Monday, January 23rd, 2023





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## Executive Summary

Positive school climates are essential for effective student learning and set the tone for the academic, social, physical, and relational elements of a school community (United States Department of Education, n.d.). The current South Carolina Parent School Climate Survey was designed in 2001 to meet the statutory requirements of both the Education Accountability Act (EAA) and the Parental Involvement in Their Children's Education Act. Section 59-18-900 of the EAA requires that the annual school report card include "evaluations of the school by parents, teachers, and students" as performance indicators to evaluate schools. In addition, Section 59-28-190 of the Parental Involvement in Their Children's Education Act requires the Education Oversight Committee (EOC) to "survey parents to determine if state and local efforts are effective in increasing parental involvement." As a result of this legislation, the South Carolina Parent School Climate Survey was adopted by the EOC and administered by the South Carolina Department of Education (SCDE) until spring 2022 when the EOC administered the survey for the first time.

The South Carolina Parent School Climate Survey is provided to parents in the spring of each school year. For the first time in 2022, parent respondents were provided the opportunity to respond to two free-response items, in their home language, at the conclusion of the multiple-choice school climate survey items. Additionally, parents were told that their responses may be shared with state leaders. The free-response prompts solicited both positive and critical feedback from parents.

The following report is a synopsis of the process used to gain meaning from the free-response data and provides information on the most salient patterns and trends gleaned from the free-response data. School climate topics included in the report address schools' learning environments, social-physical environments, parent communication, home-school relationships, individual graduation plans and other relevant topics. Parent perceptions and sentiment about various school climate topics are presented in various formats, and the report concludes with recommendations for state, district, and school leaders. The recommendations gleaned from the emergent themes and patterns from the analysis include:

- Providing access to relevant free-response data to school leaders.
- Combining both positive and critical feedback under one free response prompt to allow for a more streamlined analysis of the frequencies and sentiment for all school climate topics.
- Soliciting feedback from a greater number of parents through targeted communications.
- Further analysis and research into the critical feedback responses provided by middle-level parents.
- Adding links within the existing survey to address the questions and concerns of 8<sup>th</sup>-12<sup>th</sup> grade parents about individual graduation plans (IGP) and conferences.



## Introduction

Mixed methods research, which blends both numerical and categorical data, is increasingly used within the education, business, and government sectors. Mixed methods research provides robust and detailed data for stakeholders to make informed decisions (Feldoff & Radisch, 2021; Lowenhaupt, 2021).

The analysis in this report blends both numerical and categorical data and provides an explanation about the ways in which the *quantitizing* process was used to analyze the large set of qualitative free-response data (Sandelowski et al., 2009). In this report, quantitizing refers to “the numerical translation, transformation, or conversion of qualitative data” (Sandelowski et al., 2009, p. 208).

The parent school climate survey free-response prompts were as follows:

**Parent Free-Response One Prompt (FR1):** Based on your experiences with your child at <name of child’s school>, what are some **good things** that you would like to share about this school, its leaders, or its faculty and staff?

**Parent Free-Response Two Prompt (FR2):** Based on your experiences with your child at <name of child’s school>, what are some **areas for improvement** that you would like to share about this school, its leaders, or its faculty and staff?

There was a total of 17,259 responses to **free-response prompt one** (FR1) and 14,439 responses to **free-response prompt two** (FR2). 360 free responses were submitted in a language other than English which were translated to English prior to the free-response data analysis.

## Text Analytics of Large Datasets

Larger datasets of qualitative data, like open-ended responses, often require software tools which can format unstructured data in a way that is appropriate for analysis with available resources (personnel, time, budget, etc.). Qualtrics® software was primarily used for coding and making sense of the free-response data from the parent school climate survey.

In the next sections, free-response data is presented in terms of 1) frequency of keywords mentioned, 2) keyword sentiment analysis, and 3) the patterns and trends gleaned from samples of free-responses concerning schools’ learning environments, home-school relations, social and physical environments, individual graduation plans (IGP), student safety, and parent communication. Concepts such as keyword generation and keyword sentiment will all be discussed relative to the school climate survey data.

Qualtrics® uses Text iQ®, which is a platform tailored for use with unstructured data, to assist with the analysis and management of qualitative data. Qualtrics® can be used to display patterns and response sentiment gleaned from the textual data within open-ended survey questions. The information from Qualtrics® can be presented through dashboard data visualization such as the **word clouds** shown below.

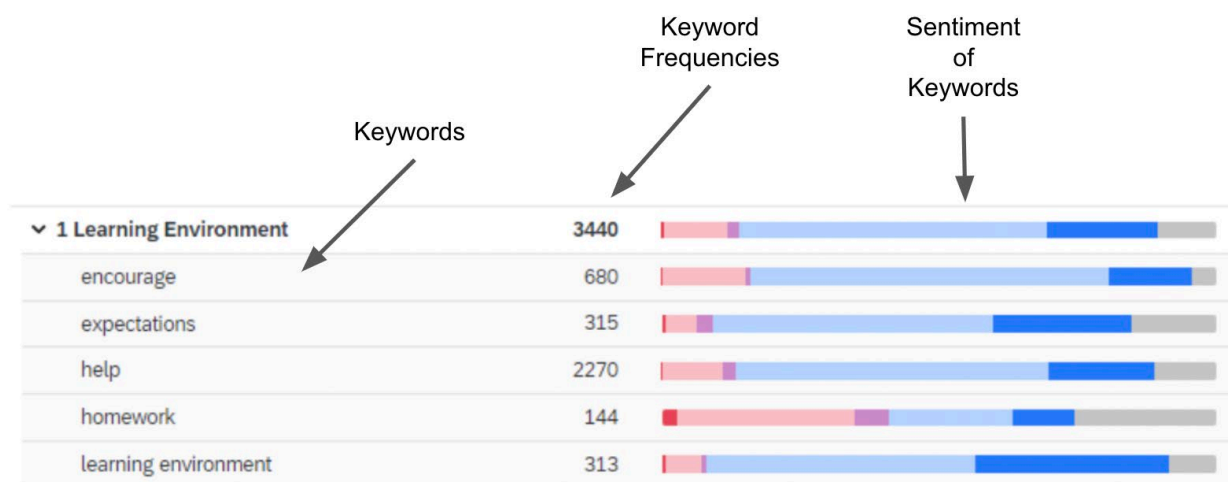


software to identify, filter, and quantify, free-responses that appear relevant to the analysis. Keywords also help the software to quantitize sentiment.

### Sentiment of Keywords

In addition to determining the frequency of keywords, the sentiment of each topic or keyword could also be determined by Qualtrics®. In this report, **sentiment** “refers to the positivity or negativity expressed in text” concerning the perception of respondents to a particular prompt (very negative, negative, mixed, positive, very positive, neutral; Qualtrics®, 2022, p. 1). Sentiment analysis is a form of quantizing which uses text analysis based on pattern recognition to extract meaning from unstructured responses “elicited with free-form text boxes” (Korfiatis, 2019, p. 9). The positive, neutral, mixed, or negative sentiment provides another way to quantitize and understand the free response data (Pratiba, 2013).

Figure 4 - Keyword Sentiment Features



Using the sentiment analysis feature of Qualtrics® may reduce the impact of human error and bias and may allow for patterns to be observed on a more comprehensive scale. Additionally, sentiment analysis can be harnessed to identify the most critical and positive feedback to make actionable meaning of respondent feedback.

### Dependability and Verification of Interpretations

Mixed methods data analysis of any sort requires a blend of internal and external validation as well as easily accessible and verifiable explanations of the data analysis process (Côté, 1994; Tenenbaum et al., 2011). Confounding variables can confuse the pattern recognition capabilities of software and can lead to inappropriate conclusions without human intervention. When working with large data sets, software must be used in tandem with human reason and analysis to ensure the information gleaned is useful and accurately describes the relationships between various variables. Therefore, multiple approaches were used to ensure the free-response data was dependable and verifiable and included: peer review, software training and development, input from focus groups, and a variety of software tools.

### Free-Response Analysis

The spring 2022 parent school climate survey asked questions in sections about the Learning Environment, Home-School Relationships, Social and Physical Environment, Individual Graduation Plans,



Student Safety, and Parent Communication and Involvement. The first section below contains high-frequency free-response keywords based on software-generated terms. The second section of this report contains data visualization in the form of charts containing the sentiment of keywords and phrases. In the second section, key words, phrases, and synonyms are highlighted in yellow below to show the connection between the keywords and survey items.

## High-Frequency Free-Response Topics

Qualtrics® software included pre-created topics containing keywords and phrases, based on commonly used language in educational surveys. Below is a list of the software-generated keywords, the percentage of positive sentiment, and the frequency at which each keyword was mentioned within the survey for FR1 (“good things”) and FR2 (“areas for improvement”).

**Table 1**

*Response Frequency Chart*

High-Frequency Keywords	FR1		FR2		FR1/FR2 Total Count
	Count	% Pos.	Count	% Pos.	
Overall Teacher Feedback	10,339	74%	6,072	7%	16,411
Learning Outcomes and Expectations	4,176	64%	5,373	9%	9,549
Class Content	2,013	52%	4,561	3%	6,574
School/District Leadership	3,037	64%	1,859	7%	4,896
Communication	2,967	75%	3,686	5%	6,653
Care	3,950	92%	591	17%	4,541
Class Structure	1,355	56%	2,784	4%	4,139
Help	2,270	76%	1,819	9%	4,089
Student Support	2,603	86%	1,261	12%	3,864
Technology and Virtual Learning	1,260	51%	2,456	4%	3,716
Student Engagement Involvement	1,624	81%	1,136	10%	2,760
Educator Personal Connection	1,086	66%	1,297	7%	2,383
Bullying	440	28%	1,736	3%	2,176
STEM Subjects	530	54%	1,054	4%	1,584
Responses	228	67%	311	5%	539
Contact	828	63%	1164	6%	1,992
Updates	320	57%	455	3%	775
Food and Nutrition	167	46%	993	3%	1,160
Assignments	216	45%	703	4%	919
Sports/Exercise/Physical Well-being	374	49%	705	4%	1,079
Safe	767	86%	277	14%	1,044
Mental Health	268	43%	734	4%	1,002

*Note:* % Pos = Percent of responses with “Very Positive” or “Positive” sentiment. All items that were left blank are not included in the analyses presented here. Each keyword represents a query string which is nuanced and speaks to specific topic keywords the software deemed relevant.

The majority of the FR1 and FR2 free-responses were under the topic “overall teacher feedback” (N = 10,339) and the percentage of positive responses was relatively high at 74% for FR1. In the positive feedback comments, the keyword “care” had the highest sentiment (92%). In the negative feedback comments, the keywords “bullying”, “updates”, and “food and nutrition” each had the lowest sentiment at 3%. The next chapters will discuss more about the free-responses containing the keywords “care” and “bullying”, however “food and nutrition” is not a keyword addressed by existing survey items.

A randomized reading of a sample of the 993 FR2 responses containing information about “food and nutrition” revealed parents were discontent about the timing and structure of their child’s lunch period as well as the quality of the cafeteria food. In this study, randomized samples of 5%-10% of responses were created using Qualtrics® and Excel®. For instance, the keyword phrase “food and nutrition” had a total count of 993 FR2 responses, so the randomized sample of “food and nutrition” was no smaller than 50, or 5%, of responses.

A common theme from parents was that lunch periods were too short. Additionally, several parents mentioned they were not allowed to visit their child and eat lunch with them, and many parents were discontent about their child eating in classrooms instead of the cafeteria. It is worth noting COVID-19 restrictions and protocols were utilized in many school districts during the 2021-2022 school year.

Also worth noting, is the logic of the query strings used to filter responses for each keyword or keyword phrase in the chart which were generated by software. For instance, the topic “School/District Leadership” included all responses with keywords from the following query string:

**district | leadership | principal | Superintendent | administrator | manager | management – time | management – data | management – money.**

*Note: In this query string, | is interpreted as “or” and – is interpreted as “not”.*

In the example above, the “School/District Leadership” topic would be assigned to any response which contains any of the keywords between the | symbols. For example, any response that uses the word “principal” or the word “Superintendent” would be assigned to this topic. Thus it would be inappropriate to interpret the sentiment score as a reflection of parents’ feelings about the Superintendent, since responses in this topic might also be about the principal.

Similarly, the “Technology and Virtual Learning” topic used the following query string:

**record | sessions | post | audio | virtual && lesson | email | session | classroom | virtual && teaching | virtual && classroom | virtual | “remote learning”**

*Note: In this query string, | is interpreted as “or” and && is interpreted as “and”.*

Analysis of this query string suggests that any response which includes the word “classroom” would be tagged with the “Technology and Virtual Learning” topic and not just responses that include both the word “classroom” and the word “virtual”. As a result, although the findings displayed in Table 1 are informative, they should be interpreted with caution.

The next sections will delve into the analytics of the free-responses and each section is organized using keywords from the multiple-choice parent survey items.

## Learning Environment

The learning environment questionnaire items asked parents their satisfaction concerning keywords such as homework, student expectations for learning, teacher encouragement, and teacher help and assistance. Across all multiple-choice survey items about the learning environment, 88.2% of parent respondents agreed or strongly agreed they were satisfied with the learning environment at their child's school.

**Table 2**

*Rates of Agreement and Item Means for Parent Survey Items about the Learning Environment*

Item	2019		2021		2022	
	% Agree	Mean	% Agree	Mean	% Agree	Mean
My child's teachers give <b>homework</b> that helps my child learn.	89%	3.2	88%	3.2	<b>86%</b>	<b>3.2</b>
My child's school has high <b>expectations</b> for student learning.	93%	3.4	93%	3.4	<b>91%</b>	<b>3.3</b>
My child's teachers <b>encourage</b> my child to learn.	94%	3.4	93%	3.4	<b>93%</b>	<b>3.4</b>
My child's teachers <b>provide extra help</b> when my child needs it.	88%	3.3	88%	3.3	<b>87%</b>	<b>3.3</b>
I am satisfied with the remote/online learning options available through my child's school. *	—	—	79%	3.0	—	—
I am satisfied with the <b>learning environment</b> at my child's school.	87%	3.2	88%	3.2	<b>84%</b>	<b>3.2</b>
<b>Average Across Items</b>	90%	3.3	88%	<b>3.25</b>	<b>88.2%</b>	<b>3.3</b>

*Note:* % Agree = Percent of respondents who answered "Strongly Agree" or "Agree" out of all respondents for whom this item is not missing. All items are scored on four-point Likert scale in which "Strongly Disagree" = 1, "Disagree" = 2, "Agree" = 3, and "Strongly Agree" = 4. All items that were left blank or for which the respondent selected a fifth, non-response option (presented as "Don't Know" in 2019 and 2021, and as "Does Not Apply or Choose Not to Answer" in 2022) are considered missing data and are not included in the analyses presented here. The most recent results are presented in bold. The words highlighted in yellow in the learning environment survey items were used to generate keywords (see Figure 5) to assist with filtering the free-response data.

\* This item only appeared on the 2021 Parent Survey.

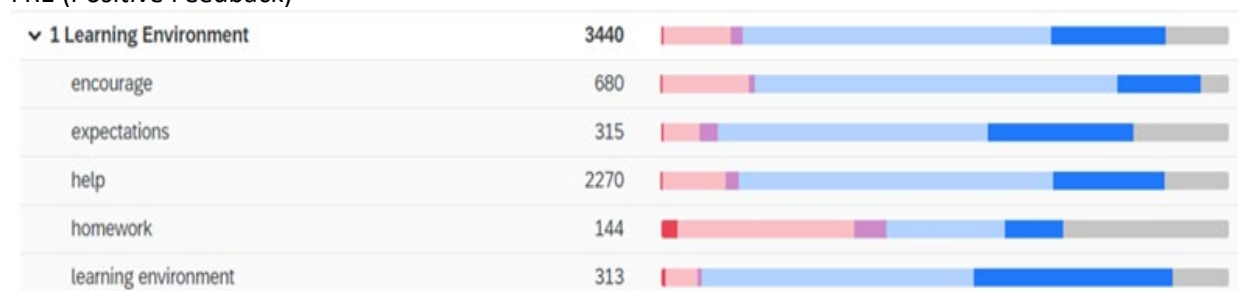
### Learning Environment Free-Response Analysis

In total, there were 3,440 FR1 responses that matched terms in the Learning Environment survey items and 2,864 FR2 responses that matched terms in the Learning Environment survey items. Concerning the learning environment, parent responses containing the keyword “help” were the most frequent in FR1 (N = 2,270) versus FR2 (N = 1,819). A reading of a randomized sample of FR1 and FR2 responses containing the keyword “help” indicated parents were either pleased or dissatisfied with the help and support provided from teachers, support staff, and school leadership before, during, and after school.

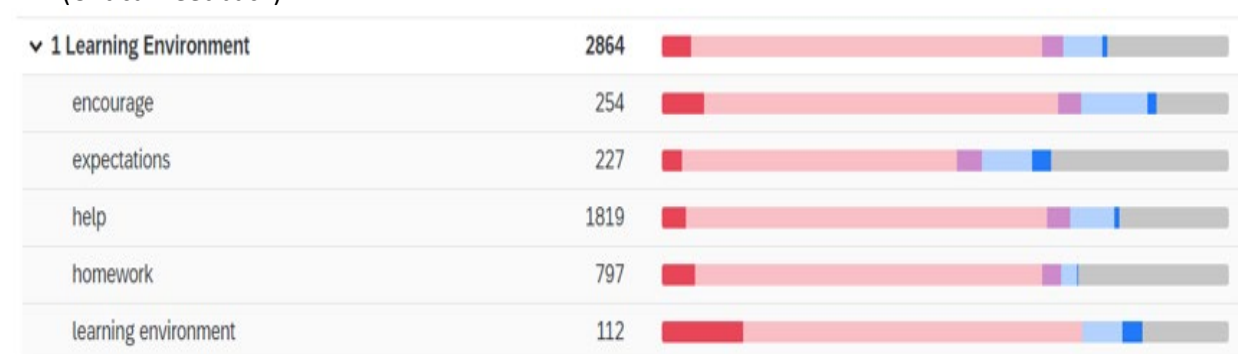
The keyword with the second highest number of FR1 responses was “encourage” (N = 254). A reading of a randomized sample of FR1 responses containing the keyword “encourage” revealed in general, parents felt their child’s learning environment was encouraging and motivating to their child. The keywords with the most positive sentiment overall within the FR1 responses were “learning environment” (76% positive) and “encourage” (80% positive).

Figure 5 - Learning Environment Sentiment

#### FR1 (Positive Feedback)



#### FR2 (Critical Feedback)



● Very negative    ● Negative    ● Mixed    ● Positive    ● Very positive    ● Neutral

The keyword with the second highest number of critical feedback responses was “homework” (N = 797). The sentiment for “homework” was 35% negative, which was the highest negative sentiment in the critical feedback responses. A reading of a randomized sample of critical feedback responses about the keyword “homework” revealed parent dissatisfaction with the volume and difficulty of their child’s homework.

## Home-School Relationships

The home-school relationship items on the parent school climate survey were about the relationship and communication between schools and parents. 79% of parents “strongly agreed” or “agreed” they were satisfied with the home-school relationships at their child’s school.

**Table 3**

*Rates of Agreement and Item Means for Parent Survey Items about Home-School Relationships*

Item	2019		2021		2022	
	% Agree	Mean	% Agree	Mean	% Agree	Mean
My child’s teachers <b>contact</b> me to say good things about my child.	62%	2.8	66%	2.8	<b>67%</b>	<b>2.9</b>
My child’s teachers tell me <b>how I can help my child</b> learn.	66%	2.8	70%	2.9	<b>69%</b>	<b>2.9</b>
I <b>feel welcomed</b> at my child’s school. <sup>b</sup>	—	—	88%	3.2	<b>88%</b>	<b>3.3</b>
My child’s school <b>responds</b> promptly when I have concerns. <sup>b</sup>	—	—	89%	3.3	<b>87%</b>	<b>3.2</b>
My child’s school <b>gives me information</b> about <b>what my child should be learning in school.</b>	76%	3.0	77%	3.0	<b>76%</b>	<b>3.1</b>
My child’s school <b>considers changes</b> based on what parents say.	72%	2.9	74%	2.9	<b>72%</b>	<b>2.9</b>
My child’s school schedules activities at times that <b>I can attend.</b>	84%	3.1	85%	3.1	<b>86%</b>	<b>3.1</b>
My child’s school treats my child fairly. <sup>a</sup>	81%	3.1	93%	3.3	—	—
The principal at my child’s school is available and welcoming. <sup>a</sup>	90%	3.3	92%	3.4	—	—
I am satisfied with home-school relations at my child’s school.	84%	3.1	85%	3.1	<b>84%</b>	<b>3.1</b>
<b>Average Across Items</b>	<b>77%</b>	<b>3.0</b>	<b>82%</b>	<b>3.1</b>	<b>79%</b>	<b>3.1</b>

*Note:* % Agree = Percent of respondents who answered “Strongly Agree” or “Agree” out of all respondents for whom this item is not missing. All items are scored on four-point Likert scale in which “Strongly Disagree” = 1, “Disagree” = 2, “Agree” = 3, and “Strongly Agree” = 4. All items that were left blank or for which the respondent selected a fifth, non-response option (presented as “Don’t Know” in 2019 and 2021, and as “Does Not Apply or Choose Not to Answer” in 2022) are considered missing data and are not included in the analyses presented here. The most recent results are presented in bold. The words highlighted in yellow in the home-school relationships survey items were used to generate keywords (see Figure 6) to assist with filtering the free-response data.

<sup>a</sup> These items did not appear on the 2022 Parent Survey. <sup>b</sup> These items did not appear on the 2019 Parent Survey.

### *Home-School Relationships Free-Response Analysis*

Unlike the learning environment responses, there were more FR2 (critical feedback) than FR1 responses about home-school relationships. There were 1,773 FR1 items about home-school relationships and 2,111 free-response two items about home-school relationships. The ratio between FR1 and FR2 responses indicates higher rates of dissatisfaction within the home-school relationship factor when compared to the learning environment factor which trends with the information gleaned from the

analysis of the quantitative portion of the parent survey (learning environment level of agreeance M = 88.2%; home-school relationships level of agreeance M = 78.6%).

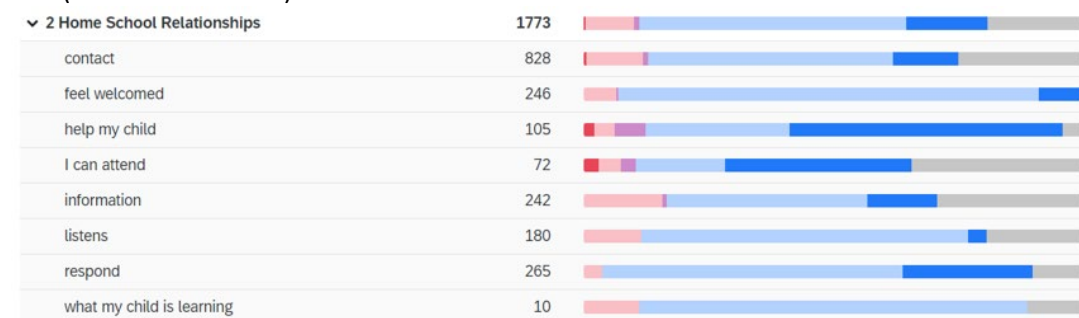
The keyword with the highest frequency of responses for both FR1 and FR2 was “contact”. Based on a reading of a randomized sample of both positive and critical feedback, parents were either satisfied or dissatisfied by the timeliness, frequency, method, and quality of contact made by schools to the school community.

The keyword with the second highest frequency within the positive feedback responses for home-school relationships was “respond” (N = 265) with many parents sharing their positive experiences about the responsiveness of their child’s school to their concerns. For the negative feedback responses, there were 554 responses (second highest) about the keyword “information.”

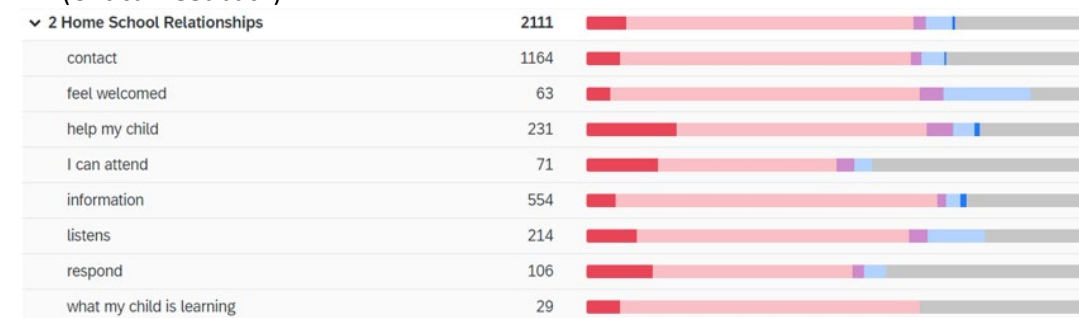
A careful read of a randomized selection of free-responses with the keyword “respond” revealed that many comments under this keyword were about the lack of information or timeliness from schools concerning pertinent matters. Parents shared their need for more responsive actions to be taken to address their questions and concerns. Parents also wanted up-to-date communication in the form of weekly newsletters, texts, and other software programs.

*Figure 6 - Home School Relationships Sentiment*

**FR1 (Positive Feedback)**



**FR2 (Critical Feedback)**



● Very negative ● Negative ● Mixed ● Positive ● Very positive ● Neutral

The most positive home-school relationship keyword was “feel welcomed” within the FR1 responses (94%). The keyword with the highest negative sentiment in FR2 was the keyword “help my child” (73%). It is also interesting to note that the items with the lowest frequency for both FR1 and FR2 were “what my child is learning” at 10 and 29 responses, respectively. This low frequency rate, and a careful read of

all “help my child” comments, revealed that parents may not be as concerned about what their child is learning as they are about the overall frequency and quality of contact from their child’s school.

## Social and Physical Environment

**Table 4**

*Rates of Agreement and Item Means for Parent Survey Items about the Social-Physical Environment*

Item	2019		2021		2022	
	% Agree	Mean	% Agree	Mean	% Agree	Mean
My child’s school is kept <b>clean</b> .	92%	3.4	97%	3.4	<b>92%</b>	<b>3.4</b>
My child’s teachers <b>care</b> about my child.	91%	2.8	94%	3.4	<b>93%</b>	<b>3.4</b>
My child feels <b>safe</b> at school.	89%	3.3	94%	3.4	<b>90%</b>	<b>3.3</b>
*My child’s teachers and school staff prevent or stop <b>bullying</b> at school.	81%	3.0	86%	3.2	<b>80%</b>	<b>3.1</b>
*My child’s school has an <b>anti-bullying</b> program to prevent or deal with bullying.	83%	3.1	91%	3.2	<b>81%</b>	<b>3.1</b>
I am satisfied with the <b>social</b> and <b>physical</b> environment at my child’s school.	87%	3.1	90%	3.2	<b>85%</b>	<b>3.2</b>
<b>Average Across Items</b>	<b>87%</b>	<b>3.1</b>	<b>92%</b>	<b>3.3</b>	<b>87%</b>	<b>3.3</b>

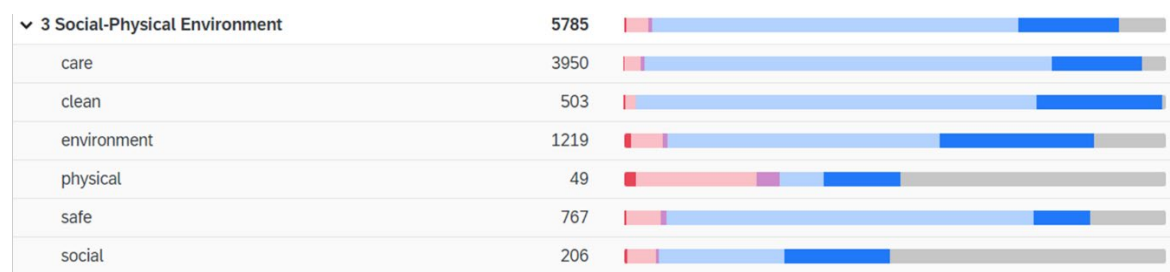
*Note:* % Agree = Percent of respondents who answered “Strongly Agree” or “Agree” out of all respondents for whom this item is not missing. All items are scored on four-point Likert scale in which “Strongly Disagree” = 1, “Disagree” = 2, “Agree” = 3, and “Strongly Agree” = 4. All items that were left blank or for which the respondent selected a fifth, non-response option (presented as “Don’t Know” in 2019 and 2021, and as “Does Not Apply or Choose Not to Answer” in 2022) are considered missing data and are not included in the analyses presented here. The most recent results are presented in bold. The words highlighted in yellow in the social and physical environment survey items were used to generate keywords (see Figure 7) to assist with filtering the free-response data. \*The keywords “bullying” and “anti-bullying” were used in the analysis of the Student Safety survey section.

### Social and Physical Environment Free-Response Analysis

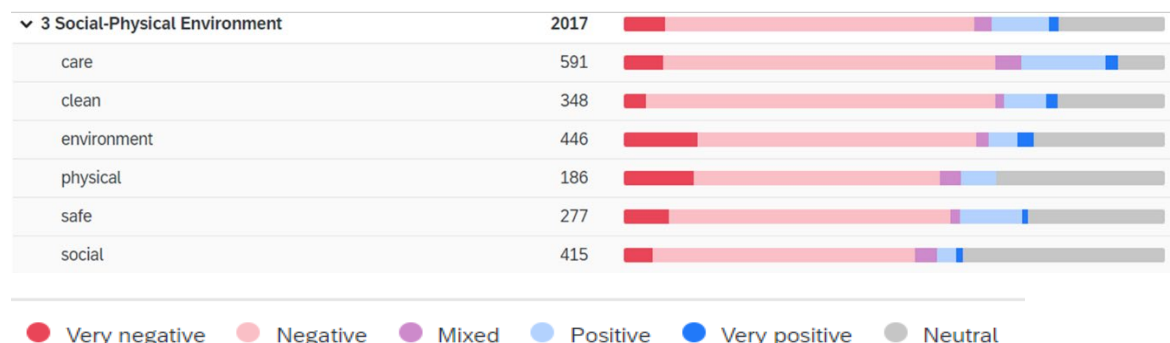
There was a total of 5,785 FR1 responses concerning the social and physical aspects of schools and 2,017 FR2 (critical feedback) responses. The keyword “care” was mentioned a combined total of 4,541 times within FR1 and FR2 responses (Figure 7). However, “care” was mentioned nearly seven times more in the FR1 comments than the FR2 comments indicating that more parents held a positive rather than negative sentiment about the amount of care within their child’s learning environment.

*Figure 7 - Social-Physical Environment Sentiment*

#### FR1 (Positive Feedback)



## FR2 (Critical Feedback)



In a reading of randomized samples of FR1 responses about “care”, many parents shared their positive views concerning the responsiveness, effort, and attention of school faculty and staff. Parents also highlighted the ways in which schools showed care in promoting student well-being and success in learning. Even so, the keyword “care” did also have the highest amount of negative sentiment within the critical feedback responses. A randomized sample of FR2 responses provided instances in which parents felt schools were not responsive or flexible to the needs of students.

The keyword “clean” had the highest positive sentiment in FR1 and was mentioned a total of 503 times within the FR1 responses. A reading of a randomized sample of FR1 responses with the keyword “clean” revealed parents were satisfied with the clean environment of their child’s school and school grounds.

## Individual Graduation Plan (IGP) (8<sup>th</sup>-12<sup>th</sup> Grade Parents Only)

**Table 5**

*Rates of Agreement and Item Means for Parent Survey Items about the Individual Graduation Plan (IGP) Process and Conferences*

Item	2019		2021		2022	
	% Agree	Mean	% Agree	Mean	% Agree	Mean
The IGP conference was beneficial to my child as he/she prepares to be promoted to the next grade level.	91%	3.2	89%	3.2	<b>89%</b>	<b>3.2</b>
During the IGP conference, the counselors discussed my child's academic progress and his/her career goals.	93%	3.3	92%	3.3	<b>89%</b>	<b>3.2</b>
I recommend that all parents/guardians attend IGP conference with their children.	95%	3.4	95%	3.4	<b>95%</b>	<b>3.4</b>
<b>Average Across Items</b>	<b>93%</b>	<b>3.3</b>	<b>92%</b>	<b>3.3</b>	<b>91%</b>	<b>3.3</b>

*Note:* % Agree = Percent of respondents who answered “Strongly Agree” or “Agree” out of all respondents for whom this item is not missing. All items are scored on four-point Likert scale in which “Strongly Disagree” = 1, “Disagree” = 2, “Agree” = 3, and “Strongly Agree” = 4. All items that were left blank or for which the respondent selected a fifth, non-response option (presented as “Don’t Know” in 2019 and 2021, and as “Does Not Apply or Choose Not to Answer” in 2022) are considered missing data and are not included in the analyses presented here. The most recent results are presented in bold. The word highlighted in yellow in the IGP survey items was used as a keyword (see Figure 8) to assist with filtering the free-response data.

### IGP Free-Response Analysis

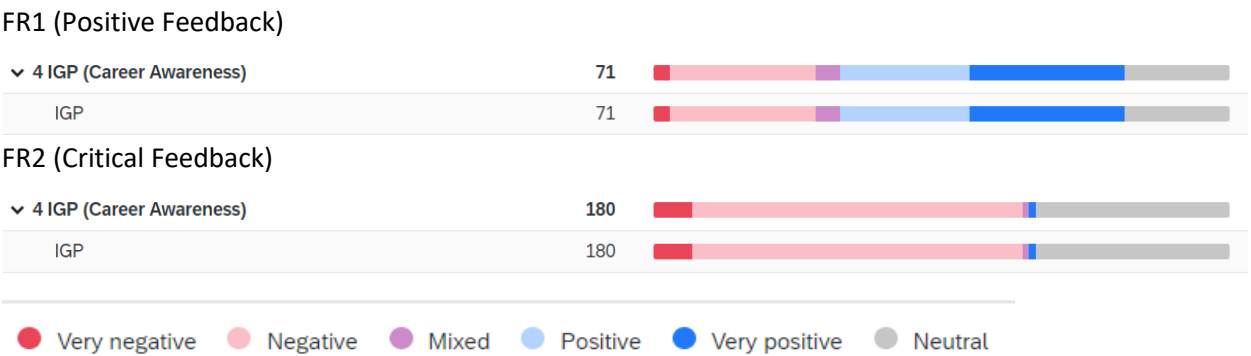
There were 251 parent responses (FR1, N = 71; FR2, N = 180) which mentioned the IGP conference, specifically. The IGP questions were only for parents of 8<sup>th</sup> - 12<sup>th</sup> graders. The term “IGP” was used as a



keyword for mining the appropriate free-responses to complete a sentiment analysis on. In general, the sentiment for FR1 was mixed, even though the FR1 asked for positive feedback for schools. The FR2 responses had moderately high rates of neutral sentiment compared to other survey keywords and relatively lower rates of positive sentiment.

A reading of a randomized sample of FR1 and FR2 responses revealed some parents appreciated and found IGP conferences to be useful. However, some parents were unaware of IGP conferences and claimed they had not attended or been invited to IGP conferences. Several parents also felt the timing, length, and structure of the conference was not particularly helpful in providing career guidance and awareness.

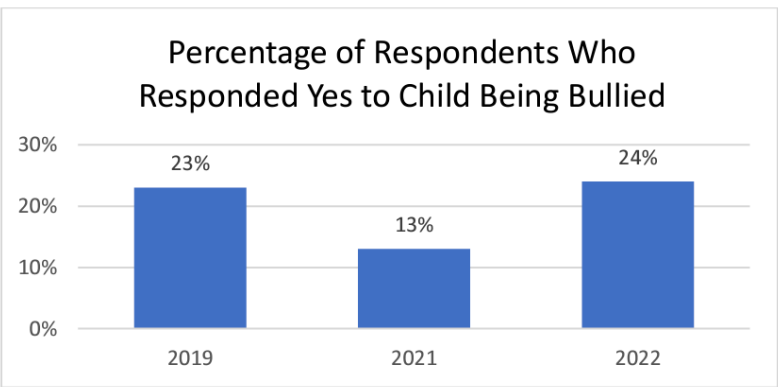
Figure 8- Individual Graduation Plan Sentiment



## Student Safety

Parent respondents were asked if their child had been bullied in the school climate surveys for the 2018-2019; 2020-2021; and 2021-2022 school years. There were student safety questions within the social and physical environment and student safety sections of the parent school climate survey. Additionally, the questions asked about locations and instances in which bullying had occurred

Figure 9 - Percentage of Respondents Who Responded Yes to Child Being Bullied



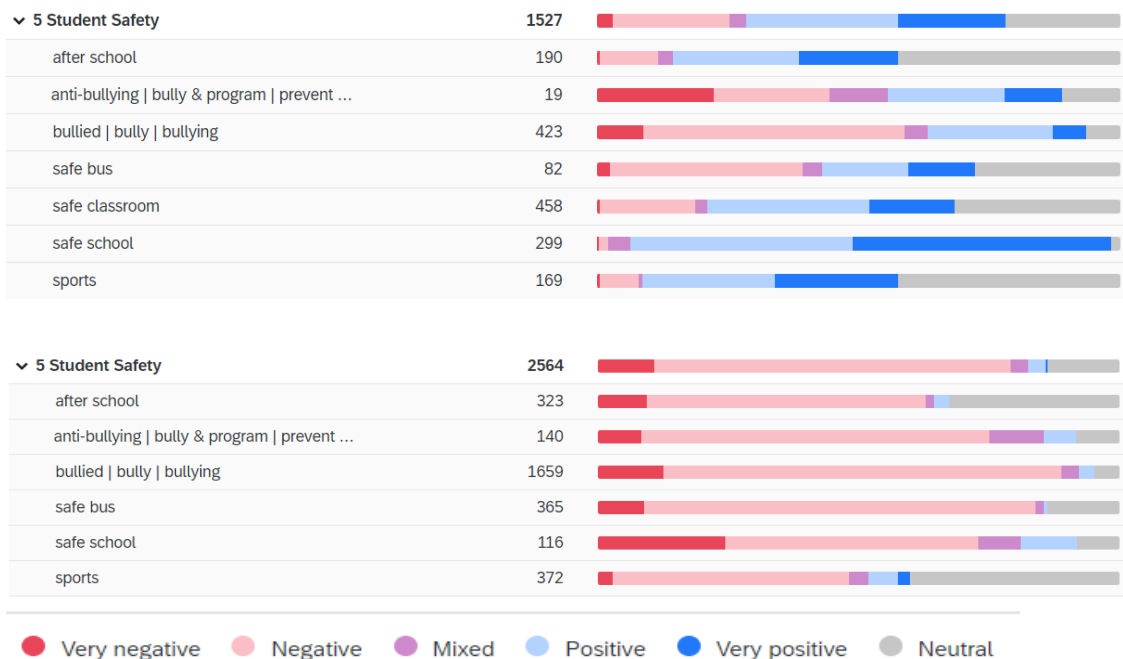
**Table 6****Locations of Reported Bullying**

Location	2019	2021	2022
Classroom	66%	35%	<b>39%</b>
Bus	24%	10%	<b>12%</b>
Online/Texting During School	12%	9%	<b>6%</b>
After School	13%	8%	<b>8%</b>
School Sporting Event	4%	3%	<b>2%</b>
Other Location	48%	34%	<b>33%</b>

**Note:** Reported percentages for each year may add up to greater than 100% since respondents could identify more than one location at which their child was bullied. The most recent results are presented in bold. The words highlighted in yellow in the student safety survey items and items about bullying were used to generate keywords (see Figure 10) to assist with filtering the free-response data.

*Student Safety Free-Response Analysis*

The words in the multiple-choice survey items about bullying were used to generate the student safety keywords. Below is Figure 10 which contains a chart of the sentiment of keywords about bullying and student safety in relevant settings.

*Figure 10 - Student Safety Sentiment***FR1 (Positive Feedback)**

Even within the prompt which requested positive feedback for schools, terms about bullying in school settings were mentioned 1,527 times. Compared to the sentiment charts for other survey sections, the percentage of negative sentiment was highest for the student safety section. The word “safe” in FR1 and FR2 was mentioned most frequently with the keywords “sports” (541), “bus” (447), and “school” (415).

The parent responses within a randomized sample of responses about student safety revealed parents talked more about instances of bullying than any anti-bullying efforts by their child’s school. For instance, while some parent responses shared about the lack of bullying in their child’s school environment, many more parents were aware of instances of bullying within their child’s school and were displeased with the ways in which issues with bullying were resolved. These patterns and trends held throughout the reading of a randomized sample of parent responses.

## Parent Communication

The parent communication survey items focused on keywords concerning the flow of information and contact between families and schools.

**Table 7**

*Percent of “Yes” Responses Received on Yes/No Parent Communication Survey Items*

Item	2021	2022
I receive timely communication from my child’s school (such as telephone calls, newsletters, emails, etc.).	94%	<b>91%</b>
I receive regular updates of my child’s educational progress.	83%	<b>81%</b>
I attend school events such as open houses, parent-teacher conferences, and parent workshops.	80%	<b>86%</b>
I participate in school committees or organizations, such as the PTO, or School Improvement Council.	25%	<b>27%</b>
I volunteer at my child’s school.	27%	<b>32%</b>
I help my child with school assignments when needed.	98%	<b>98%</b>
<b>Average Across Items</b>	68%	<b>69%</b>

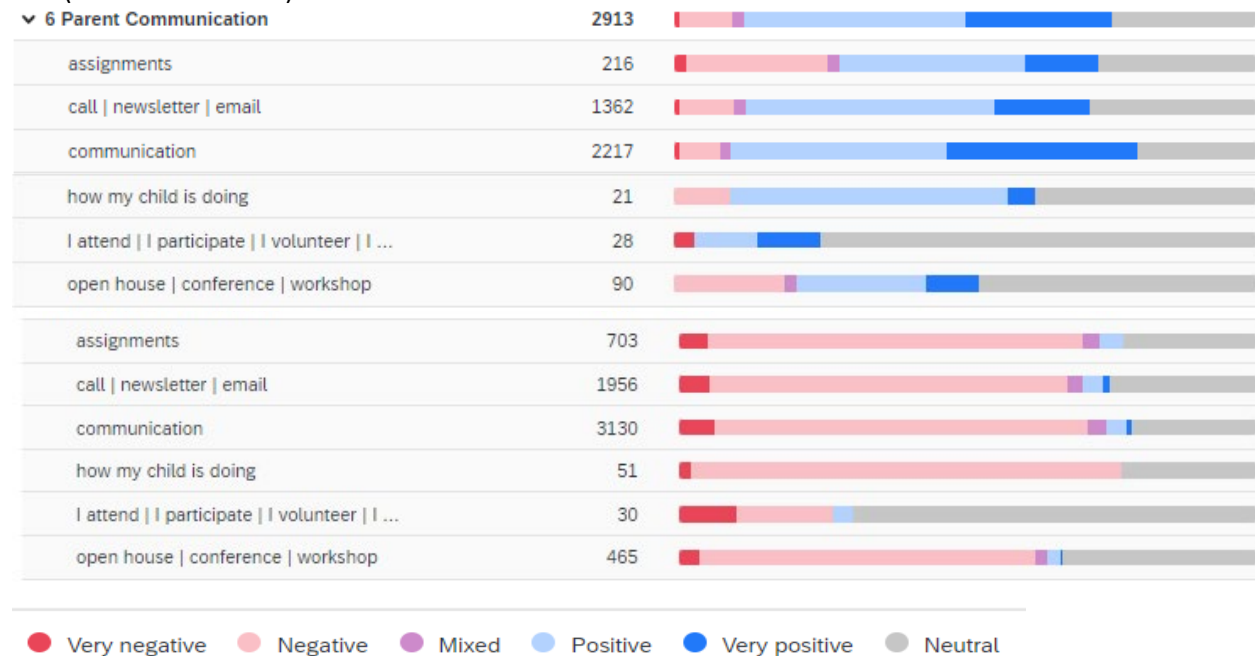
*Note:* Respondents were given the option to select either “Yes” or “No” for the items shown. Percentages displayed indicate the percent of “Yes” responses received out of responses for the indicated item that were not left blank. Results for 2019 are not displayed because the format and phrasing of these items changed substantially from 2019 to 2021. The most recent results are presented in bold. The words highlighted in yellow in the parent communication survey items were used to generate keywords (see Figure 11) to assist with filtering the free-response data.

### Parent Communication Free-Response Analysis

There were 5,130 parent communication free-responses. Most of the comments were about communication (FR1, N = 2,217; FR2, N = 3,130). More specifically the keywords “call”, “newsletter”, and “email” were frequently mentioned forms of communication (FR1, N = 1,362; FR2, N = 1,956). Concerning parent communication, the keyword with the highest positive sentiment was the term “communication” and the keyword with the highest negative sentiment was the key phrase “how my child is doing”. In general, more parents who responded to the free response texts were displeased with the culture of communication than not.

Figure 11 - Parent Communication Sentiment

#### FR1 (Positive Feedback)



## Discussion

The trends and patterns in the free-response data have implications for education leaders as they work to promote and sustain healthy school climates.

Findings suggest the development of positive school climate can be enhanced through:

1. **Consistent, timely, and responsive communication methods** about school-wide events and issues which arise for students and their families throughout the school year.
2. **Fostering community connections** by consistently engaging with school families and community members in positive and inclusive ways.
3. **Continuing to provide access** to a variety of activities, resources, and opportunities during and after school to support student development and growth.
4. **The reduction** of negative interactions by supporting student development of soft skills and dispositions such as: perseverance, responsibility, kindness, and respect.
5. **Developing transparent systems and processes** for disciplinary and behavioral issues as well as other issues pertaining to school policies and procedures.
6. **Providing** additional support during non-instructional times (hallway transitions, bathrooms, cafeterias, etc.) and during after-school events to prevent bullying.
7. **Improving student physical well-being** by making school-based decisions with students and their families, concerning recess, physical activity, school lunch options, and mental health and wellness.
8. **Utilizing IGP conferences** as quality opportunities to promote the career development and awareness of students and parents during course planning and registration.

## Recommendations

The free-response prompts specifically asked about feedback for school climate and many parents took advantage of the opportunity to provide meaningful feedback about their child's experience at their designated school. Free response data should be provided to school leaders to support the development of healthy school climates (Feldhoff & Radisch, 2021). Educational leaders at all levels in South Carolina can use free response data, like the data collected during 2021-2022 school year, to inform decision making which promotes a positive school climate and improved student achievement. School improvement councils can use the parent input from the free response data to guide the establishment of priorities which inform school improvement plans.

- Providing access to relevant free-response data to school leaders.

We found the responses for FR1 and FR2 contained a combination of negative and positive feedback, even though parents were prompted to provide positive feedback for FR1 and critical feedback for FR2. The free response prompts should be merged into one prompt which simply asks, "What other comments would you like to share with us?" We recommend future free-response prompts solicit both positive and critical feedback which would allow for a better analysis of the sentiment and frequencies for all concepts.

- Combining both FR1 and FR2 under one free response prompt to allow for a more streamlined analysis of the frequencies and sentiment for all school climate topics.

Additionally, there is a need for more survey feedback from a greater number of parents, within a variety of different subgroups (grade bands, income levels, etc.). Concerning survey respondents, there were more parents of elementary and primary school students who completed the school climate survey than middle or high school students. However, a higher percentage of parents of middle school students completed the survey in relation to the 180-Day enrollment head count for the 2021-2022 school year.

- Soliciting feedback from a greater number of parents through targeted communications.

**Table 8**

*Parent Respondents by Student Level*

	<b>180-Day Enrollment Head-Count</b>	<b>Number of Parent Survey Respondents</b>	<b>%</b>
<b>Primary/Elementary</b>	367,179	25,425	7%
<b>Middle</b>	183,196	14,339	8%
<b>High</b>	226,917	15,480	7%

Other EOC research projects could explore the free-response data by subgroup to look for patterns and trends among different survey keywords and frequencies. Focus groups could be held about survey modifications to make the survey more relevant to parents. Public communications, in the form of social media ads, newspaper ads, or radio ads could improve parent awareness in different subgroups for the school climate surveys. Additionally, educational leaders could be involved in providing input to understand and improve the response rate of school climate survey respondents.

In addition, the four most frequently mentioned grade-levels in the critical feedback responses were middle-level grades (5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>). It is important to understand why these grades were mentioned the most. It is recommended a deeper analysis of this feedback be made. Further analysis is needed to find words and keywords which are most frequently mentioned in comments about middle-level grades. Additional analyses could use regression models with free-response data keyword frequencies, sentiments scores, and survey item means to predict which variable can be predictive of another. As a result, more detailed survey items could be created which speak to the unique experiences of students and parents in the middle-levels.

- Further analysis and research into the critical feedback responses provided by middle-level parents.

Lastly, career awareness and development are important to supporting the Education and Economic Development Act (EEDA) and more importantly outlining a path which ultimately leads students to college and career readiness. Monitoring and improving the implementation and impact of IGPs should be a goal of state leaders; it is a unique opportunity for parents, counselors, and students to come together in support of the student. It may be beneficial for high schools to follow-up with the students and parents within their school community to determine their career awareness and development needs and receive suggestions for improving the implementation of IGP conferences. Therefore, within the spring 2023 survey, the EOC plans to provide a contact link to parents immediately following the IGP survey items which will provide them an opportunity to request information from their child's school leaders concerning the IGP process.

- Adding links within the existing survey to address the questions and concerns of 8<sup>th</sup>-12<sup>th</sup> grade parents about individual graduation plans (IGP) and conferences.

In summary, using free-responses and data analysis can be important and useful for educational leaders, however; the volume of data can be intimidating. Fortunately, there are many tools for researchers to use to collaborate and make informed recommendations to decision makers. The research staff for the South Carolina Education Oversight Committee (EOC) is increasingly using forms of both quantitative and qualitative methods to promote data usage for positive educational outcomes. Qualitative and quantitative research will continue to provide an avenue for state educational leaders and stakeholders to further promote growth and provide excellent outcomes for students in South Carolina.



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