South Carolina STEAM Implementation Continuum

HIGH SCHOOL

INTRODUCTION:

STEAM education provides an opportunity for students to experience science, technology, engineering, arts, and mathematics as they would in a career setting where all the components are infused in both creative expressions and problem solving situations based on the South Carolina standards. In order to establish a common vision as to how that should look in an educational setting and to help educational communities determine where they are in providing that desired experience, a team of South Carolina educators[1] representing each of the STEAM areas developed the *South Carolina STEAM Implementation Continuum*. The continuum will be used by the South Carolina Department of Education to promote the development of consistent quality, sequential and comprehensive STEAM programs.

PURPOSE:

The purpose of the *South Carolina STEAM Implementation Continuum* is to provide statewide guidance and consistency with regard to STEAM implementation. To accomplish that purpose, the document sets forth a common language for STEAM implementation and establishes indicators in a continuum format that describe early or "Emerging" to model or "Practicing" STEAM schools or programs.

For a school/district that is interested in STEAM implementation, the continuum should serve as a self-reflection readiness tool. For a school/district that currently has a STEAM program, the continuum may be used as a tool or rubric to guide self-reflection related to the status of STEAM implementation and to plan STEAM-related action steps for the future.

DESIGN:

There are elementary, middle and secondary continuums which are identical with the exception of criteria for work-based experiences at the middle and secondary levels. After this introductory page of the continuum, there is a Checklist/Rubric that lists the major components of the continuum and the criteria for each of those major components. The pages that follow the Checklist/Rubric provide descriptive indicators for each of the criteria.

The indicators are designed to show the progression across levels of implementation. The levels of implementation include

- Emerging – a school at this level of implementation is beginning to explore the STEAM concept
- Developing – a school at this level of implementation has made a decision to embrace the STEAM concept and is moving toward program development
- Accomplishing – a school at this level of implementation has embraced the STEAM concept and is working toward becoming a model program
- Practicing – a school at this level of implementation has embraced the STEAM concept and has a quality, collaborative and comprehensive model STEAM program

STEAM Implementation Continuum
High School Checklist/Rubric

Checklist/Rubric	Check the Boxes Below for Which You Have Evidence[1] To Support Your Level of Implementation			
	Emerging Level	Developing Level	Accomplishing Level	Practicing Level
Component I – Program Development				
Criteria				
1. Fundamentals to Develop a Viable STEAM Program				
Component 2 - Science, Technology, Engineering, Arts and Mathematics Connections				
Criteria				
1. Connections Among STEAM Components and Practices, Integration of Standards and Assessment				
2. Integration of Technology and Virtual Learning				
3. Connections to Effective In and Out of School STEAM Programs				
Component 3 – Teacher Planning and Professional Growth				
Criteria				
1. Instructional Planning and Sharing				
2. STEAM Related Professional Learning				
Component 4 – STEAM Culture and Outreach				
Criteria				
1. Culture				
2. Outreach				

Component 5 – Connections with Postsecondary Education				
Criteria				
1. Alignment and articulation of students' career pathways with postsecondary STEAM programs/careers				
2. Availability of credit completion with postsecondary institutions, including community colleges, colleges and/or universities				
Component 6 – Recognizing STEAM Accomplishments and Innovations				
Criteria				
1. Methods and Frequency				
Component 7 – Program Evaluation and Sustainability				
Criteria				
1. Data and Research				
2. Sustainability				

COMPONENTS, CRITERIA and INDICATORS

<table>
<tr><td colspan="5">Component 1 – Program Development</td></tr>
<tr><td colspan="5">Criteria 1 – Fundamentals to Develop a Viable STEAM Program</td></tr>
<tr>
<td></td>
<td>Emerging</td>
<td>Developing</td>
<td>Accomplishing</td>
<td>Practicing</td>
</tr>
<tr>
<td>1.1.1 STEAM Team</td>
<td>STEAM program leadership team[2] members are being identified.</td>
<td>STEAM leadership team[2] members have been identified and approached for membership.</td>
<td>A STEAM leadership team[2] is functional with all STEAM content areas represented.</td>
<td>A STEAM leadership team[2] is fully functional with all STEAM content areas represented.</td>
</tr>
<tr>
<td>1.1.2 STEAM Network</td>
<td>School/program is seeking to establish partnerships[3] with other schools, community resources, postsecondary institutions, military personnel, and/or businesses/industries, teaching artists, and/or arts organizations[4] to identify solutions for building a quality comprehensive and sequential STEAM school/program.</td>
<td>School/program engages with other schools, community resources, postsecondary institutions, military personnel, and/or businesses/industries, teaching artists, and/or arts organizations[4] to identify solutions for executing a quality, comprehensive and sequential STEAM school/program.</td>
<td>School/program has documented partnerships[3] with other schools, community resources, postsecondary institutions, military personnel, and/or businesses/industries, teaching artists, and/or arts organizations[4] to identify solutions for executing a quality, comprehensive and sequential STEAM school/program; partnerships are purposeful and mutually beneficial.</td>
<td>School/program has documented and sustained partnerships[3] with other schools, community resources, postsecondary institutions, military personnel, and/or businesses/industries, teaching artists, and/or arts organizations[4] to identify solutions for executing a quality, comprehensive and sequential STEAM school/ program; partnerships are purposeful, mutually beneficial, monitored, and evaluated.</td>
</tr>
<tr>
<td>1.1.3 STEAM Plan</td>
<td>Development of a STEAM program plan[5] is being considered.</td>
<td>A draft STEAM program plan[5] is being developed that focuses on student participation, supported by school data and research, and aligns with the district strategic plan and the school renewal plan.</td>
<td>A STEAM program plan[5] has been developed that focuses on student participation, supported by school data and research, aligns with the district strategic plan and the school renewal plan, addresses all components of this STEAM continuum, and includes fully functional STEAM postsecondary pathways.</td>
<td>A STEAM program plan[5] has been developed that focuses on student participation, is supported by school data and research aligns with the district strategic plan and the school renewal plan, implements all components of this STEAM continuum and includes fully functional STEAM postsecondary pathways</td>
</tr>
</table>

1.1.4 Course of Study	The STEAM program includes science, math, music, and visual arts with plans to expand the program to include technology, engineering, dance, theatre, and media arts.	The STEAM program includes science, math, music, and visual arts and offers some courses in technology, engineering, dance, theatre, and media arts.	The STEAM program includes science, math, music, and visual arts and offers most other courses in technology, engineering, dance, theatre, and media arts.	The STEAM program includes courses in science, technology, engineering, math, dance, media arts, music, theatre and visual arts,
1.1.5 Specialized Courses	The leadership team[2] is investigating specialized courses[6] of study in both STEM related career fields and the arts to meet the skills, needs, and career aspirations of students.	The program offers one specialized course[6] of study in both STEM related career fields and the arts to meet the skills, needs, and career aspirations of students.	The program offers two specialized courses[6] of study in both STEM related career fields and the arts to meet the skills, needs, and career aspirations of students.	The program offers two or more specialized courses[6] of study in both STEM related career fields and the arts to meet the skills, needs, and career aspirations of students.
1.1.6 Resource Allocation	Limited discretionary funds or other resources are allocated to implement STEAM strategies.	Discretionary funds or other resources are allocated to implement some strategies outlined in the STEAM program plan[5].	Discretionary funds or other resources are allocated to implement most of the STEAM strategies outlined in the STEAM program plan[5] and a sustainability plan is in place.	Discretionary funds or other resources are allocated to implement all the strategies outlined in the STEAM program plan[5] and a sustainability plan is in place.
1.1.7 Stakeholder Buy-in	Program leaders' communication of the STEAM program plan[5] draws minimal participation and buy-in from teachers and key stakeholders[20].	Program leaders' annual communication of the STEAM program plan[5] develops some participation and buy-in from teachers and key stakeholders[20].	Program leaders' semiannual communication of STEAM program plan[5] develops participation and buy-in from teachers and key stakeholders[20].	Program leaders' quarterly communicate clearly and articulately about the STEAM program plan[5], secure participation and buy-in from teachers and key stakeholders[20] and encourage feedback designed to improve the STEAM plan.
1.1.8 Physical Space	Decision makers relevant to physical space are studying and making plans to transform on-site facilities or spaces into a specified, collaborative work area[7] conducive to an integrated plan of study.	Work is underway to transform on-site facilities or spaces into a specified, collaborative work area[7] conducive to an integrated plan of study.	An on-site, specified collaborative work area[7] conducive to an integrated plan of study is available.	An on-site, specified collaborative work area[7] conducive to an integrated plan of study is designated for permanent use by the STEAM program.

Component 2 - Connections Among Science, Technology, Engineering, Arts and Mathematics

Criteria 1 - Connections Among STEAM Components and Practices, Integration of Standards and Assessment

	Emerging	Developing	Accomplishing	Practicing
2.1.1 Infusion[8] of STEAM Content	Limited science, technology, engineering, arts, and mathematics content is infused[8] with plans to expand the integration.	Some of the science, technology, engineering, arts, and mathematics content is infused[8] with plans to expand the integration.	All of the science, technology, engineering, arts, and mathematics content is infused[8].	All of the science, technology, engineering, arts, and mathematics content is infused[8] and there is intent to include additional areas of study such as social students and English language arts.
2.1.2 Frequency of STEAM Infusion[8]	Up to 25% of STEAM core teachers and teachers in elective areas regularly make explicit efforts to infuse[8] science, technology, engineering, arts, and math content, requiring students to organize knowledge across disciplines.	26% to74% of STEAM core teachers and teachers in elective areas regularly make explicit efforts to infuse[8] science, technology, engineering, arts, and math content, requiring students to organize knowledge across disciplines.	75% to 89% of STEAM core teachers and teachers in elective areas regularly make explicit efforts to infuse[8] science, technology, engineering, arts, and math content, requiring students to organize knowledge across disciplines.	90% to 100% of STEAM core teachers and teachers in elective areas regularly make explicit efforts to infuse[8] science, technology, engineering, arts, and math content, requiring students to synthesize knowledge across disciplines.
2.1.3 Integration of and Alignment to SC Standards	Interdisciplinary, relevant, real world integration of SC standards is used rarely in 1 or more STEAM subject areas.	Interdisciplinary, relevant, real world integration of SC standards is used occasionally in 2 or more STEAM subject areas.	Interdisciplinary, relevant, real world integration of SC standards is used monthly throughout all STEAM subject areas.	Interdisciplinary, relevant, real world integration of SC standards is used on a daily basis throughout all STEAM subject areas.

2.1.4 Habits of Mind[9]	Teachers in the STEAM program are studying student habits of mind[9] that are associated with understanding and application of knowledge in a STEAM classroom.	Teachers in the STEAM program are giving students opportunities to apply habits of mind[9] that are associated with understanding and application of knowledge in a STEAM classroom.	Teachers in the STEAM program are requiring students to apply habits of mind[9] when demonstrating understanding in a STEAM classroom.	Teachers in the STEAM program are giving students opportunities to apply and are requiring students to apply habits of mind[9] when demonstrating understanding in a STEAM classroom.
2.1.5 Students Work Cooperatively	Students rarely work cooperatively to apply STEAM skills, frame STEAM-related problems and test solutions that incorporate STEAM content.	Students occasionally work cooperatively with clearly defined individual and team expectations, to apply STEAM skills, frame STEAM-related problems and test solutions that incorporate STEAM content.	Students frequently work cooperatively with clearly defined individual and team expectations, to apply STEAM skills, frame STEAM-related problems and test solutions that incorporate STEAM content.	Students regularly work cooperatively with clearly defined individual and team expectations, to apply STEAM skills, frame STEAM-related problems and test solutions that incorporate STEAM content.
2.1.6 Authentic Assessment[10]	Up to 25% of teachers are encouraged and supported to use a variety of formative assessments to determine student achievement, including performance- based assessments (projects, portfolios, artworks, performances, etc.).	25-50% of teachers use a variety of formative assessments to determine student achievement, including performance-based assessments (projects, portfolios, artworks, etc.).	51-75% of teachers use a variety of formative assessments to determine student achievement, including performance-based assessments (projects, portfolios, artworks, etc.) multiple times during the school year.	Over 75% of STEAM teachers regularly use a variety of formative assessments to determine student achievement, including performance-based assessments (projects, portfolios, artworks, etc.).

Criteria 2: Integration of Technology and Virtual Learning				
	Emerging	**Developing**	**Accomplishing**	**Practicing**
2.2.1 Instructional Tech for STEAM	Up to 25% of students and teachers are proficient in the effective use of technology tools[11].	25-50% of students and teachers are proficient in the effective use of technology tools[11].	51-75% of students and teachers are proficient in the effective use of technology tools[11].	More than 75% of students and teachers are proficient in the effective use of technology tools[11].
2.2.2 Instructional Tech Resources for STEAM	Teachers annually obtain information regarding computer-based and/or online instructional resources for STEAM aligned to the student and teacher standards developed by the International Society for Technology in Education (ISTE)[12.]	Teachers semi-annually obtain information regarding computer-based and/or online instructional resources for STEAM aligned to the student and teacher standards developed by the International Society for Technology in Education (ISTE)[12].	Teachers quarterly obtain information regarding computer-based and/or online instructional resources for STEAM aligned to the student and teacher standards developed by the International Society for Technology in Education (ISTE)[12.]	STEAM teachers monthly obtain information regarding computer-based and/or online instructional resources for STEAM aligned to the student and teacher standards developed by the International Society for Technology in Education (ISTE)[12.]
2.2.3 Computer & Web- based Technology	Teachers and students occasionally use a few computer-based, online, mobile, virtual, and/or other technology tools to support standards-based learning.	Teachers and students weekly use computer- based, online, mobile, virtual, and/or other technology tools to support standards-based learning.	Teachers and students daily use computer- based, online, mobile, virtual, and/or other technology tools, as appropriate, to support standards-based learning and the technology is often directly used by students.	Teachers seamlessly integrate computer-based, online, mobile, virtual, and/or other technology tools into standards-based learning and the technology is frequently in direct use by students.
2.2.4 Tech Support	Teachers have limited access to maintenance support for instructional technology; IT equipment is rarely functional for extended periods of time.	Teachers occasionally have access to maintenance support for instructional technology; IT equipment is occasionally functional for extended periods of time.	Districts have structures in place that enable teachers to have timely access to maintenance support for instructional technology; IT equipment is functional most of the time.	Districts have structures in place that enable STEAM teachers and students to have timely access to maintenance support instructional technology; IT equipment is functional all of the time.

	Emerging	Developing	Accomplishing	Practicing
Criteria 3: Connections to Effective In- and Out-of-School STEAM Programs				
2.3.1 Learning Connected to Industry	The Leadership Team[2] is researching and planning in-school learning opportunities for students on content that is directly connected to current work in STEAM- related professions and industries.	Limited in-school learning opportunities (artworks, performances, projects, activities, etc.) for all students focus on content directly connected to current work in STEAM-related professions and industries.	Several in-school learning opportunities (artworks, performances, projects, activities, etc.) for all students focus on content directly connected to current work in STEAM-related professions and industries.	In-school learning opportunities (artworks, performances, projects, activities, etc.) for all students frequently focus on content directly connected to current work in STEAM-related professions and industries.
2.3.2 Students and STEAM Professionals	The Leadership Team[2] is creating plans to provide students with opportunities to meet STEAM professionals and/or to experience professional STEAM work environments during and/or outside school	Students are provided with direct experiences with STEAM professionals, professional STEAM work environments, and/or practical applications of STEAM content during and/or outside school at least two times throughout the year.	Students are provided with direct experiences with STEAM professionals, professional STEAM work environments, and/or practical applications of STEAM content during and/or outside school at least four times throughout the year.	Students are provided with direct experiences with STEAM professionals, professional STEAM work environments, and/or practical applications of STEAM content during and/or outside school six times throughout the year.
2.3.3 Work-Based Experiences[13]	Very few students have an active, work- based learning experience[13] with an external STEAM-related industry partner, either during or after the school day.	Up to 25% of students have at least one active, work-based learning experience[13] annually with an external STEAM-related industry partner, either during or after the school day.	26-49% of students have at least one active, work-based learning experience[13] annually with an external STEAM-related industry partner, either during or after the school day.	50% or more of students have an active, work-based learning experience[13] annually with an external STEAM-related industry partner, either during or after the school day.

Component 3 – Teacher Planning and Professional Growth

Criteria 1 – Instructional Planning and Sharing

	Emerging	Developing	Accomplishing	Practicing
3.1.1 Long Range Planning	On an annual basis teachers meet <u>horizontally</u> (with grade level peers) <u>and vertically</u> (across grade levels within their school and across feeder schools) to develop long range instructional plans based on the STEAM program.	On an annual basis teachers meet <u>horizontally</u> (with grade level peers) <u>and vertically</u> (across grade levels within their school and across feeder schools) to develop long range instructional plans based on the STEAM program.	On an annual basis teachers meet <u>horizontally</u> (with grade level peers) <u>and vertically</u> (across grade levels within their school and across feeder schools) to develop long range instructional plans based on the STEAM program.	On an annual basis teachers meet <u>horizontally</u> (with grade level peers) <u>and vertically</u> (across grade levels within their school and across feeder schools) to develop long range instructional plans based on the STEAM program.
3.1.2 Specific Instructional Planning	On an annual basis teachers meet horizontally (with grade level peers) to develop/modify instructional plans.	On a semiannual basis teachers meet horizontally (with grade level peers) to develop/modify instructional plans.	At least quarterly teachers meet horizontally (with grade level peers) to develop/modify instructional plans.	At least every two-months teachers meet horizontally (with grade level peers) to develop/modify instructional plans.
3.1.3 Collaborative PLC	Less than quarterly, STEAM teachers share STEAM activities or ideas and utilize data to plan learning outcomes through professional learning community meetings and common planning time.	Quarterly, STEAM teachers share STEAM activities or ideas and utilize data to plan learning outcomes through professional learning community meetings and common planning time.	Monthly, STEAM teachers share STEAM activities or ideas and utilize data to plan learning outcomes through professional learning community meetings and common planning time.	Weekly, STEAM teachers share or co- create STEAM activities or ideas and utilize data to plan learning outcomes through professional learning community meetings and common planning time.
3.1.4 Collaboratively Develop Assessments	On a semi-annual basis teachers share assessment strategies.	On a quarterly basis teachers share assessment strategies; they occasionally collaborate to create measures of student progress and achievement and examine and reflect on student work.	Teachers collaborate at least monthly to reflect on student work, to discuss strategies for using the results to inform instruction, and to create various measures of student progress and achievement.	Teachers collaborate at least weekly to reflect on student work, to discuss strategies for using the results to inform instruction, and to create various measures of student progress and achievement.
3.1.5 Collaboration in Network of Schools[14]	School/program leadership rarely participate in a network of schools[14] or school leaders which address STEAM education.	School/program leadership participates semiannually in an active, online network of schools[14] or school leaders which address STEAM education.	School/program leadership participates annually in a face-to-face **or** at least quarterly in an active, online network of schools[14] or school leaders which address STEAM education.	School/program leadership participates annually in a face-to-face **and** at least quarterly in an active, online network of schools[14] or school leaders which addresses STEAM education.

Criteria 2: STEAM-Related Professional Learning				
	Emerging	**Developing**	**Accomplishing**	**Practicing**
3.2.1 Individualized Professional Learning	Teachers participate in professional learning[15] sessions that introduce generic STEAM teaching skills and strategies.	Teachers participate in STEAM professional learning[15] sessions focusing on critical STEAM teaching skills that may include strategies for standards-based learning, for integrating/infusing STEAM, or information on current content and best practices.	Teachers have identified unique STEAM professional learning[15] goals and tailor as much as 25% of their STEAM professional learning activities to meet their individual, professional needs that may include strategies for inquiry- based instruction, for integrating/infusing STEAM, or information on current content and best practices.	Teachers have identified unique STEAM professional learning[15] goals and customize at least 50% of their STEAM professional learning activities to meet their individual needs that may include strategies for inquiry-based instruction, for integrating/ infusing STEAM, and information on current content and best practices, techniques, materials and processes.
3.2.2 Job-embedded PD	A job-embedded or practice-based approach to professional learning[15] is rarely used during the school year for teachers.	A job-embedded or practice-based approach to professional learning[15] is used occasionally during the school year for teachers.	A job-embedded or practice-based approach to professional learning[15] is used frequently (monthly) during the school year for teachers.	A job embedded or practice-based approach to professional learning[15] is used regularly (multiple times a month) for teachers.
3.2.3 Frequency of STEAM-Related Professional Learning	Teachers participate in 0-6 hours per year of STEAM-related professional learning[15] which addresses integrated[16] STEAM content, community/industry partnerships, connections with postsecondary education, pedagogy, and/or digital learning.	Teachers participate in 6-10 hours per year of STEAM-related professional learning[15] which addresses integrated[16] content/arts, community/industry partnerships, connections with postsecondary education, pedagogy (including strategies for teaching specific content to diverse learners) and/or digital learning.	Teachers participate in 11-14 hours per year of STEAM-related professional learning[15] which addresses integrated[16] content/arts, community/industry partnerships, connections with postsecondary education, pedagogy (including strategies for teaching specific content to diverse learners), and/or digital learning.	Teachers participate in at least 15 or more hours per year of STEAM-related professional learning[15] which addresses infused[16] content/arts, community/industry partnerships, connections with postsecondary education, pedagogy (including strategies for teaching specific content to diverse learners), and/or digital learning.
3.2.4 Applied Learning for STEAM Teachers	Up to 25% teachers participate at least annually in applied learning experiences[17] to increase their STEAM content or career knowledge.	25-50% of teachers participate at least annually in applied learning experiences[17] to increase their STEAM content or career knowledge.	50-75% of teachers participate at least annually at least annually in applied learning experiences[17] to increase their STEAM content or career knowledge.	Over 75% of teachers participate at least annually in applied learning experiences[17] to increase their STEAM content or career knowledge.

Component 4: STEAM Culture[17] and Outreach

Criteria 1 - Culture

	Emerging	Developing	Accomplishing	Practicing
4.1.1 STEAM Culture[18]	Up to 25% of STEAM school/program students, teachers and administrators have articulated what a STEAM culture[18] looks like and emphasize the inclusion of all students.	25%-50% of STEAM school/program students, teachers and administrators maintain a STEAM culture[18], and emphasizes the inclusion of all students.	51-99% of STEAM school/program students, teachers and administrators maintain a STEAM culture[18], and emphasizes the inclusion of all students.	100% of STEAM school/program students, teachers and administrators maintain a STEAM culture[18] and includes all students in the STEAM program.

Criteria 2 – Outreach

	Emerging	Developing	Accomplishing	Practicing
4.2.1 Encourage Interest in STEAM	The Leadership Team[2] and Teachers in the STEAM program make no efforts to encourage interest in the STEAM program.	The Leadership Team[2] and teachers in the STEAM program make some efforts to encourage interest in the STEAM program.	Guidelines are available to enable the Leadership Team[2] and other STEAM program participants to actively make efforts to encourage interest in the STEAM program.	Based on written guidelines, the Leadership Team[2] and other STEAM program participants actively recruit and encourage participation in the STEAM program.
4.2.2 Inclusion of Under-represented Groups	No efforts are made to recruit and include underrepresented groups[19] in the STEAM program.	School leaders make some efforts to include some of the underrepresented groups[19] in the STEAM program.	Guidelines are available to enable school leaders and program participants to actively make efforts to include some of the underrepresented groups[19] in the STEAM program.	Guidelines are in place and in practice to enable school leaders and program participants to actively make efforts to include all of the underrepresented groups[19] in the STEAM program.
4.2.3 Encouraging Under-represented Groups	No clear guidelines and/or practices explicitly focus on increasing long-term participation by students from underrepresented groups[19] in postsecondary STEAM pathways.	Guidelines and/or practices are being considered to focus on increasing long-term participation by students from underrepresented groups[19] in postsecondary STEAM pathways.	A draft of guidelines has been written and is in development to focus on increasing long-term participation by students from underrepresented groups[19] in postsecondary STEAM pathways.	Guidelines are written and in practice that are designed to increase long-term participation by students from underrepresented groups[91] in postsecondary STEAM pathways.

Component 5: Connections with Postsecondary Education

Criteria 1 - Alignment with students' career pathways to postsecondary programs/careers

	Emerging	Developing	Accomplishing	Practicing
5.1.1 Information Sharing	Information about secondary/postsecondary STEAM programs and STEAM career topics is shared annually among counselors and some teachers and distributed to students.	Information about postsecondary STEAM programs and STEAM career topics is shared semiannually among counselors and some teachers and distributed to students.	Information about postsecondary STEAM programs and STEAM career topics is shared quarterly among counselors and some teachers and distributed to students.	Information about postsecondary STEAM programs and STEAM career topics is shared quarterly among counselors and all teachers and distributed to students.
5.1.2 Diverse Course Selection	Courses in one STEAM-related career field are available to students.	Courses in two-three STEAM-related career fields are available to students.	Courses in four STEAM-related career fields are available to students face-to-face and/or virtually.	A wide variety of courses in all STEAM-related career fields are available to students face-to-face and/or virtually.
5.1.3 Counselor & Student Relationships	Counselors and students communicate rarely about the students' future plans and coursework as it relates to STEAM.	Counselors and students interested in STEAM communicate occasionally in a face-to-face and/or virtual setting about the students' future plans and coursework as it relates to STEAM.	Counselors and students have developed one-on-one relationships, communicating frequently (at least quarterly) in a face-to-face or virtual setting to discuss, plan and track the connections and alignment of the students' plans to STEAM related careers and postsecondary education.	Counselors and students have developed one-on-one relationships and use both face-to-face and virtual communication frequently (at least quarterly) in meetings, to plan, discuss and track the connections and alignment of students' individual graduation plans to STEAM related careers and postsecondary education.
5.1.4 Counselors & Teachers	Counselors and STEAM teachers (or teachers of science, technology, engineering, arts, and mathematics) meet rarely to discuss the alignment of students' coursework to postsecondary careers and/or education.	Counselors and STEAM teachers (or teachers of science, technology, engineering, arts, and mathematics) meet annually to discuss the alignment of students' coursework to postsecondary careers and/or education.	Counselors and STEAM teachers (or teachers of science, technology, engineering, arts, and mathematics) communicate semiannually to discuss the alignment of students' coursework to postsecondary careers and/or education.	Counselors and STEAM teachers (or teachers of science, technology, engineering, arts, and mathematics) communicate at least quarterly (with at least one face-to-face meeting) to discuss the alignment of students' coursework to postsecondary careers and/or education.

	Emerging	**Developing**	**Accomplishing**	**Practicing**

Criteria 2: Availability of credit completion with postsecondary institutions, including community colleges, colleges and/or universities

	Emerging	**Developing**	**Accomplishing**	**Practicing**
5.2.1 Credit Completion Availability	STEAM school/program has at least one dual credit course offering in STEAM-related career fields based upon agreements with at least one postsecondary institution.	STEAM school/program has at least two dual credit course offerings in STEAM-related career fields based upon agreements with at least one postsecondary institution.	STEAM school/program has at least three dual credit course offerings in STEAM-related career fields based upon partnerships with at least one postsecondary institution; offerings were thoughtfully selected based upon other course availabilities at the school.	STEAM school/program has at least four dual credit course offerings in STEAM-related career fields based upon agreements with at least one postsecondary institution; offerings were thoughtfully selected based upon other course availabilities at the school.
5.2.2 Student Enrollment	Less than 10% of an underrepresented group[19] of students are enrolled in STEAM courses that provide dual enrollment in postsecondary institutions.	10-25% of an underrepresented group[19] of students are enrolled in STEAM courses that provide dual enrollment in postsecondary institutions.	25-50% of an underrepresented group[19] of students are enrolled in STEAM courses that provide dual enrollment in postsecondary institutions.	Over 50% of an underrepresented group[19] of students are enrolled in STEAM courses that provide dual enrollment in postsecondary institutions.
5.2.3 Advising	Counselors understand the postsecondary enrollment process but rarely advise students on STEAM opportunities.	Counselors understand the postsecondary enrollment process and advise students on STEAM opportunities.	Both counselors and STEAM teachers understand the pathway completion and postsecondary enrollment process and occasionally advise students on STEAM opportunities.	Both counselors and STEAM teachers understand the pathway completion and postsecondary enrollment process and regularly advise students on STEAM opportunities.

Component 6 – Recognizing STEAM Accomplishments and Innovations

Criteria 1 – Methods and Frequency

	Emerging	Developing	Accomplishing	Practicing
6.1.1 Communication Tools	One-way communication tools, such as websites and newsletters, and/or two-way tools, such as social media platforms, webinars, and meetings, are used annually to communicate internally and externally about the school STEAM program activities.	One-way communication tools, such as websites and newsletters, and/or two-way tools, such as social media platforms, webinars, and meetings, are used semiannually to communicate internally and externally about the school STEAM program activities.	One-way communication tools, such as websites and newsletters, and/or two-way tools, such as social media platforms, webinars, and meetings, are used quarterly to communicate internally and externally about the school STEAM program activities.	One-way communication tools, such as websites and newsletters, and/or two-way tools, such as social media platforms, webinars, and meetings, are used monthly to communicate internally and externally about the school STEAM program activities.
6.1.2 Recognize STEAM Work	Students, teachers, and administrators celebrate student work in STEAM through on-site exhibits and/or performances.	Students, teachers, and administrators celebrate student work in STEAM through on-site and online exhibits and/or performances.	Students, teachers, and administrators celebrate student work in STEAM through on-site, online and state exhibits and/or performances.	Students, teachers, and administrators celebrate student work in STEAM through exhibits on-site, online, state and national exhibits and/or performances.
6.1.3 Creativity and Risk Taking	On an annual basis program leadership honors and encourages innovation in STEAM among students.	On a semiannual basis program leadership honors and encourages innovation in STEAM among students.	On a quarterly basis program leadership and participants honor and encourage innovation in STEAM among students.	More often than quarterly program leadership and participants honor, encourage, and incentivize innovation in STEAM among students.

Component 7:   Program Evaluation and Sustainability

Criteria 1 – Data and Research

	Emerging	Developing	Accomplishing	Practicing
7.1.1 STEAM Data Use	School/program-level student data on performance in the STEAM program (from test scores to work samples) is available to administrators and teachers and rarely used use to inform instructional and programmatic decisions.	A variety of school/program-level student data on performance in the STEAM program (from test scores to work samples) is available to administrators and teachers, and is used semi-annually to inform instructional and programmatic decisions.	A variety of school/program-level student data on performance in the STEAM program (from test scores to work samples) is available to administrators and teachers, and is used quarterly to inform instructional and programmatic decisions throughout the year.	A variety of school/program-level student data on performance in the STEAM program (from test scores to work samples) is available to administrators and teachers, and is regularly used to inform instructional and programmatic decisions throughout the year.
7.1.2 Research	On an annual basis partners, school/program leaders and teachers share, with each other, research and information on data and research-based best practices related to their STEAM program goals.	On a semi-annual basis partners, school/program leaders and teachers share, with each other, research and information on data and research-based best practices related to their STEAM program goals.	On a quarterly basis partners, school/program leaders and teachers share, with each other, research and data and research-based best practices related to their STEAM program goals.	On a monthly basis partners, school/program leaders and teachers share, with each other, research and data and research-based best practices related to their STEAM program goals.

Criteria 2 - Sustainability

	Emerging	Developing	Accomplishing	Practicing
7.2.1 Sustainability	A team of community stakeholders[20] has assembled to discuss STEAM education challenges and solutions to create funding streams.	A team of community stakeholders[20] assembles at least annually to discuss STEAM education challenges and solutions, including long-term funding.	A team of community stakeholders[20] assembles semi-annually to discuss challenges and solutions to improving their STEAM program and long-term funding streams.	A team of community stakeholders[20] assembles quarterly to discuss challenges and solutions to improving and maintaining a STEAM program and long-term funding streams.

Footnotes
For clarity and succinctness of this rubric, all footnotes are addressed in the attached STEM/STEAM Glossary

ACKNOWLEDGMENTS:

A. Statewide Panel of Experts

The Office of Instructional Practices and Evaluations at the South Carolina Department of Education acknowledges and appreciates the collaborative team of professionals who worked diligently to ensure that representatives with expertise in the areas of science, technology, engineering, arts, and mathematics had input in the development of the SC STEM/STEAM implementation continuums. Those team members are:

B. South Carolina Department of Education Team

In addition to the statewide panel of experts, a collaborative team of experts from various offices within the South Carolina Department of Education also worked diligently to ensure that a coherent vision for STEM and STEAM schools was translated into the useful tools known as the implementation continuums. Those agency team members are:

C. Research Based Recognition

Special recognition is given to The Friday Institute for Educational Innovation at North Carolina State University, Raleigh, NC for the research, collaboration and development of the North Carolina *High School STEM Implementation Rubric* (2013) which served as the starting point for discussions within South Carolina. For more information about their rubric, please visit: The Friday Institute Evaluation Team at http://eval.fi.ncsu.edu/ .

Don Dogget – Southeast Comprehensive Center