## Georgia Department of Education:
STEAM Certification for High School

### Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Pre-Implementation</th>
<th>Continuum</th>
<th>Full Implementation</th>
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<tbody>
<tr>
<td>1. STEAM Vision and Culture</td>
<td>No vision for STEAM education is in place and a STEAM culture is not evident in the school.</td>
<td>The vision for STEAM is clearly defined and an arts and design-focused culture has been established within the school. Students articulate and live this vision and culture through their actions, passions, and perceptions.</td>
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</tbody>
</table>

#### Required
- The STEAM vision for the program is written. Fine arts* are included in the vision for the program.
  - Note: In Georgia, “Fine arts” is defined as Dance, Media Arts, Music, Theatre, and Visual Arts. Schools are not required to implement all five areas, but must utilize Georgia Standards of Excellence for selected areas.
- High schools can choose between a whole-school model or program only certification. Program Certification is a school-within-a-school model, must be at least 10% of the school population, and represent the demographics of the student body. STEAM Program Certification cannot be a program exclusively for gifted and magnet students.
- The school provides evidence that a STEAM culture has been established. Schools will decide how to showcase the STEAM culture.

#### 2. Required for program certification: Identified STEAM Students

| | No students are identified as STEAM. | STEAM students are identified, and a selection process is described. | STEAM students are identified by a school designed selection process that has been vetted with successful longitudinal evidence. |

#### Required
- Documentation of how students are selected based upon specific criteria such as interest, lottery, random selection, etc.
- A copy of the STEAM application for student entrance into the STEAM program.

#### 3. Non-Traditional Student Participation

| | The non-traditional student participation does not reflect the diversity (gender, race, ethnicity, and special populations) of the student population. | A plan is being developed for outreach, support, and focus on non-traditional student populations. | The non-traditional student participation reflects the diversity of the school in terms of gender, race, ethnicity, special populations, and academic levels. |

#### Required
- Documentation of [non-traditional student participation](#).

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*Fine arts* are defined as Dance, Media Arts, Music, Theatre, and Visual Arts. Schools are not required to implement all five areas, but must utilize Georgia Standards of Excellence for selected areas.
### 4. Characteristics of the STEAM Curriculum

<table>
<thead>
<tr>
<th>Required</th>
<th>Written description of the unique characteristics of the STEAM curriculum, which must include CTAE courses and fine arts courses that support the STEAM curriculum.</th>
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</thead>
</table>
| Example Artifacts | Documented opportunities for:  
- arts-based research student presentations of investigations and findings.  
- students to engage in regular “arguments from evidence” during classroom instruction  
- students to interact with STEAM professionals and community partners to support curriculum  
- students to participate in [Career Technical Student Organizations](#) (CTSO’s example: FFA, TSA…) and fine arts student organizations |

### 5. Student Rigor & Relevance and Instructional Quality

| Required | Submission of at least two examples of student work that has occurred at the Adaptation level of the [Rigor and Relevance Framework](#)  
<table>
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</thead>
<tbody>
<tr>
<td>Example Artifacts</td>
<td>Project examples that demonstrate culture of inquiry, creativity, and innovation exists among students, teachers, and administrators.</td>
</tr>
</tbody>
</table>

### 6. Professional Learning: Teacher Content Knowledge

<table>
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<tr>
<th>Required</th>
<th>Teachers are increasing content knowledge through multiple means such as PSC approved endorsements with an emphasis on fine arts, math, and science, content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example Artifacts</td>
<td>None of the teachers are working toward increasing content knowledge.</td>
</tr>
</tbody>
</table>
collaboration with business/industry, post-secondary, and informal education partners, and externships.

**Required**
- Documentation of method/procedures for increasing content knowledge for all teachers.
- Documentation of the plan for sustaining content knowledge and induction of new teachers including the fine arts teachers.
- Documentation of method/procedures for increasing the fine arts teachers content knowledge.
- All educators receive fine arts specific professional development in order to support arts integration in all classrooms.

### 7. Professional Learning: Instructional Practices

<table>
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<th>Required</th>
<th>Documentation of STEAM specific professional learning for all teachers, instructional coaches, and administrators that incorporates the following:</th>
</tr>
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</table>
|  - Project/problem/place-based learning  
  - Interdisciplinary instruction  
  - Investigative research-based practices  
  - Collaborative planning practices  
  - 21st Century thinking skills and school-wide use of process-based thinking (Example: Engineering Design Process, Design Thinking, etc)  
  - Arts integration |
| Documentation of visits to other STEAM Certified Schools including the school staff that visited and the school location of the visit. |

**Example Artifacts**

Documentation of teacher and administrator participation in district, GADOE, and national STEAM professional learning.

Examples: GA Department of Education STEAM/STEAM Teacher Academies, GA Department of Education STEAM/STEAM Forum, GA Department of Education STEAM/STEAM Leadership Cohort

### 8. Teacher Collaboration

<table>
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<tr>
<th>Required</th>
<th>There is no collaboration or collaboration is not structured or planned.</th>
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<tbody>
<tr>
<td>Teachers collaborate quarterly using Georgia Standards of Excellence to identify learning targets, plan interdisciplinary units, and day-to-day instruction that use process-based thinking.</td>
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</tr>
<tr>
<td>Teachers collaborate monthly using Georgia Standards of Excellence to identify learning targets, plan interdisciplinary units, and day-to-day instruction that use process-based thinking.</td>
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</tr>
<tr>
<td>Teachers collaborate at least weekly using Georgia Standards of Excellence to identify learning targets, plan interdisciplinary units, and day-to-day instruction that use process-based thinking.</td>
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</table>
### Required
- The school administration must provide collaborative planning time at a minimum of once a week.
- Business and community partners participate in teacher planning. This should also include arts or design partners.
- CTAE teachers and fine arts teachers are involved in collaborative planning time on a regular basis.
- Documented evidence of weekly STEAM collaborative planning time including meeting agendas/minutes and artifacts generated.
- Georgia Standards of Excellence, including Fine Arts standards, are used to create lessons during collaborative planning.

<table>
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<tr>
<th>9. CTAE and Fine Arts Pathways</th>
<th>Students are not CTAE pathway or fine arts pathway completers</th>
<th>100% of STEAM students complete a fine arts or CTAE pathway</th>
</tr>
</thead>
</table>

### Required
- Documentation of the number of students completing and working on a specific CTAE pathway
- School must document work with your district CTAE director and Fine Arts director

<table>
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<tr>
<th>10. Math and Science Instruction</th>
<th>Students do not take high level math and science course work.</th>
<th>25% of STEAM students are enrolled in AP or dual enrollment math and science courses. Additional supports are instituted to assist students in meeting these expectations</th>
<th>50% of STEAM students are enrolled in AP or dual enrollment math and science courses. Additional supports are instituted to assist students in meeting these expectations</th>
<th>75% of STEAM students are enrolled in AP or dual enrollment math and science courses. Additional supports are instituted to assist students in meeting these expectations</th>
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</table>

### Required
Documentation of the number of students enrolled and passing AP and/or dual enrollment math and science courses.

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<tr>
<th>11. Business, Community, and Post-Secondary Partnerships</th>
<th>There are no business, community, and post-secondary partnerships.</th>
<th>Plans are being developed to provide student opportunities to meet STEAM partners and to participate in STEAM learning environments directly connected to in-class learning.</th>
<th>Business, community, and post-secondary partnerships are involved in the STEAM instructional program 1-4 times/school year and are directly connected to in-class learning.</th>
<th>Multiple business, community, and post-secondary partnerships are ongoing and are involved by directly connecting to in-class instruction, project/problem-based learning, and exposing students to STEAM careers. Arts partnerships are in place.</th>
</tr>
</thead>
</table>

### Required
- Documentation partnership involvement at all three levels based upon the [STEAM Georgia Partnership Involvement Levels](#).
- Documentation of partnerships with local artist, arts organizations, teaching artists, or professionals who utilize arts and design in their work.
**12. STEAM Competitions, Exhibits, Clubs, and/or Career Technical Student Organizations (CTSOs)**

<table>
<thead>
<tr>
<th>No students are involved in STEAM competitions, arts organizations, arts exhibits or performances, STEAM exhibits, CTSOs, and/or in state and national STEAM forums or clubs.</th>
<th>Some of the students participate in STEAM competitions, arts organizations, arts exhibits or performances, STEAM exhibits, CTSOs, and/or in state and national STEAM forums or clubs.</th>
<th>A majority of the students participate in STEAM competitions, arts organizations, arts exhibits or performances, STEAM exhibits, CTSOs, and/or in state and national STEAM forums or clubs.</th>
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</table>

**Required**

Documentation that shows how many students participate in STEAM competition, fine arts student organizations, exhibits, club, or CTSOs.

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<tr>
<th>Students are not engaged in solving authentic, real-world problems.</th>
<th>Students are engaged in solving authentic, real-world problems, but they are not tied to the local community.</th>
<th>Long-term projects/problems are implemented throughout the school year that are standards-based, interdisciplinary, and engage students with real-world problems in their community.</th>
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</table>

**13. STEAM Curriculum: Project/Problem-Based Learning**

**Required**

- Students can articulate the relationship between math, science, and arts concepts in their interdisciplinary projects.
- Written summary of grade level specific, interdisciplinary, problem/project-based learning opportunities that have occurred throughout the school year (curriculum map, timeline, calendar, etc).
- Documentation of how project and problem-based learning connects to Georgia Standards of Excellence.
- Students have documentation of long-term project-based learning in their STEAM journals. This documentation includes the use of a school-wide process-based thinking.
- Student work created in collaboration with a business/community/post-secondary partner. Partners provide coaching and feedback throughout the project.

**14. STEAM Curriculum: Day-to-Day Interdisciplinary Instruction**

<table>
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<tr>
<th>Content areas are taught in isolation. STEAM instruction has replaced fine arts instruction.</th>
<th>Students are engaged in interdisciplinary instruction 1-3 times a month.</th>
<th>Students are engaged in interdisciplinary instruction 1-3 times a week.</th>
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</table>

**Required**

- Students can clearly articulate an understanding of connections between math, science, and arts concepts from grade-level Georgia Standards of Excellence and provide evidence of learning using their STEAM journals.
- If applicable, teachers review district pacing guides to determine connection between disciplines and standards.

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### 15. Work-Based Learning (WBL) or Capstone Project

| No students are involved in work-based learning opportunities. No students are required to complete a capstone project. | 100% of STEAM students are enrolled in work-based learning or required to complete a capstone project. |

**Required**
- Submission of at least two examples of student work as a result of work-based learning or two examples of a capstone project.

**Example Artifacts**
- Work-based learning opportunities in a STEM field
- Portfolio can be used to document work-based learning or a capstone project

### 16. Technology Integration

| There is little or no technology integration in the classroom. | A technology plan is in place to integrate a variety of technology tools supporting mastery of Georgia Standards of Excellence. | A school-wide technology plan is implemented. Classrooms include a variety of technology tools that are integrated at least weekly that support mastery of Georgia Standards of Excellence. | Technology use is ubiquitous throughout STEAM classrooms and students are producers and not just consumers of digital content that support mastery of Georgia Standards of Excellence. |

**Required**
- Submission of at least two student-produced products using technology.

**Example Artifacts**
- Students are regular producers of websites, blogs, computer programs, videos, classroom digital products, apps etc. Additional emphasis should be added to arts and design concepts driven by Fine Arts Georgia Standards of Excellence.
- Instructional technology equipment is rarely inoperable
- Teachers and students receive on-going access and opportunity to expand their proficiency in technology use

### 17. Investigative Research

| There is no investigative research occurring in classes. | STEAM students are conducting investigative research, but it is not connected to the grade-level appropriate Georgia Standards of Excellence. | STEAM students conduct investigative research to make claims, collect evidence, analyze data, and argue from evidence that connect to the grade-level appropriate Georgia Standards of Excellence. Students use various art forms to communicate findings. |

**Required**
- Students can communicate results via written, oral, and digital presentations.
- Submission of at least two student investigative research topics and their findings.

**Example Artifacts**
- Documentation of student analysis and data interpretation, explanations and design solutions, and engagement in argument from evidence
- Documentation of student use of Claim-Evidence-Reasoning model.
- Documentation of how investigative research is used to improve student solutions in both day-to-day instruction and long-term project.
- Students present findings to a public audience that includes business and community partners
- Student research is posted in hallways and classroom walls

| 18. STEAM Journals | Students do not use written journals to document | STEAM journals are being used in some, but not all grade levels or are not used consistently | Students document long-term projects-based learning, day-to-day interdisciplinary learning, and investigative research in STEAM journals. Digital portfolios may document student products; however, written journals are in place to demonstrate written student reflections and project ownership. Evidence of fine arts concepts and standards is present in journals. |

**Required**
- Students utilize school-identified problem-solving process (i.e. Engineering Design Process, Design Thinking, or school-created version) or Claim, Evidence, Reasoning framework. This is guided by teacher to ensure standards mastery.
- Submission of at least two examples of student journal use
- Documentation of how teachers plan for student journal usage during weekly collaboration

| 19. Accountability / Sustainability | There is no evidence or plan in place to sustain the STEAM culture. | | Schools determine the evidence that students are increasing in academic growth. There is a plan in place to sustain the STEAM culture. |

**Required**
- Schools indicate evidence the STEAM curriculum is increasing student academic growth over a three-year period through The Georgia Milestone Assessment, CCRPI.
- Schools submit a plan to indicate how they will continue to grow and sustain STEAM culture.