NC STEM RECOGNITION
North Carolina Department of Public Instruction

In collaboration with

NC STEM Learning Network in collaboration with
The NC Science, Mathematics and Technology Education Center
and
The Friday Institute at North Carolina State University

NC STEM Recognition Application Release: September 2018
Application Due: February 1, 2019
High School Application

School/Program Name:
School System Name:

www.ncpublicschools.org/stem
**NC STEM Recognition**

**North Carolina Department of Public Instruction**

**STEM Education:** Science, Technology, Engineering, and Mathematics (STEM) Education interweaves the disciplines of science, technology, engineering, and mathematics to enable students to understand complex societal problems preparing the next generation of innovators. North Carolina’s STEM Education aligns with the Standard Course of Study and is a critical complement to courses in the Arts, Career and Technical Education, English Language, Healthful Living, Music, Social Studies, and World Languages, and to Out-of-School programs. STEM Education is one strategy North Carolina is using to build a world-class workforce that leads to graduation, postsecondary education, and careers in our global economy.

**NC STEM Recognition:** North Carolina is providing quality STEM education. To recognize our states finest STEM Schools and Programs, NC has developed an application process to identify and recognize exemplary STEM Schools and STEM Programs. Elementary, Middle, and High Schools, Programs, or Future-Ready High Schools/Program of Achievement have the opportunity to submit an application highlighting their distinguished approaches to leading and learning in STEM Education. The application is built around a rubric which outlines critical strengths, eleven “Attributes”, of a high quality STEM Education program. Schools and programs demonstrating evidence they are implementing all eleven Attributes of a quality STEM program at the “Prepared” or “Model” level will be recognized.

**NC STEM Application Guide:**

*The Application Guide provides information and directions for Schools and Programs. The Components contain the forms and documents that are to be submitted as part of the application packet. The Appendix outlines and describes the application process and procedures and provides page locations.*

**Application Guide Contents**

1. Time Line
2. Definitions and Guide
3. Application Components
4. Application Template
5. Appendix
   - Directions
   - Achievement Level Criteria
   - Review Process
   - School Visit
   - Recommendation/School Notification
   - State Board of Education
   - Application Renewal
   - Guidance to Applicants
   - Benefits
1. Timeline:

Submit your School or Program Application on or before 5:00 pm February 1, 2019

APPLICATION TIMELINE

Timeline | Application:
--- | ---
September 2018 | Application release
February 1, 2019 | Application due

Review process:

February – Mid-March 2019 | Application reviewed
Mid-March – April 2019 | Site visits to qualifying schools
June 2019 | State Board of Education Recognition

○ Submit Application electronically to:
  ○ Howard Ginsburg, STEM Consultant NC Department of Public Instruction
    E-mail howard.ginsburg@dpi.nc.gov
  ○ Indicate in subject line: 2019 STEM Application
  ○ Paper copies will not be accepted

○ Received no later than 5:00 pm Friday, February 1, 2019

○ Questions regarding application may be directed to:
  Howard Ginsburg
  howard.ginsburg@dpi.nc.gov
  919-807-3814

The NC STEM Recognition Application will be released annually. Refer to page 45/46 for application renewal information.
### 2. Definitions and Guide:

**STEM Education** is teaching and learning that:

- Aligns to the Engineering Design Process/Engineering Connections to engage students in a way of critical thinking, reasoning, collaborative teamwork, investigative and creative skills that are real-world and relevant to today’s society
- Anchor to content in the areas of science, technology, engineering, and mathematics (STEM)
- Complements courses in the Arts, Career and Technical Education, English Language Arts, Healthful Living, Music, Social Studies, and World Languages and to Out-of-School programs

*This definition of STEM is for guidance purposes*

Choose to apply for Recognition as either a **NC STEM School**, **NC STEM Program**, or **NC Future-Ready STEM High School or Program of Achievement**. Complete the **NC STEM Recognition Application Cover Form** *(Form A)*

**A STEM School** is an entire school focused on integrating Science, Technology, Engineering, and Mathematics (STEM) Education plus other content areas as needed to carry out STEM themed content and career cluster theme(s) of the school. Principles that frame STEM include:

- Integrating Science, Technology, Engineering, and Mathematics curriculum, aligned with state, national, international and industry standards
- Incorporating on-going community and industry engagement
- Connecting to postsecondary education

STEM schools are:

- Built on researched-based design principles
- Organized around units of study and courses that interweave S, T, E, M plus other content areas as needed to carry out STEM themed content and career cluster theme(s)
- Engage students in critical thinking, problem solving, collaborative teamwork, and investigative/creative skills to make relevant connections between their studies and the world outside their classroom

Schools are to use the following State Standards:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Connections:</td>
<td><a href="http://www.ncpublicschools.org/programming/stem-resources/">http://www.ncpublicschools.org/programming/stem-resources/</a></td>
</tr>
<tr>
<td>Mathematics Common Core:</td>
<td><a href="http://maccss.ncdpi.wikispaces.net/home">http://maccss.ncdpi.wikispaces.net/home</a></td>
</tr>
</tbody>
</table>

For all other content areas aligned to this project, the State approved Common Core or Essential Standards are to be used. These standards are identified on the North Carolina Department of Public Instruction website. [www.ncpublicschools.org](http://www.ncpublicschools.org)

**A STEM Program** have the same elements of a STEM school but is a subset organized as a STEM learning community within in a school. It is comprised of a body of students by grade level or heterogeneous body of students. A learning community may be called an academy.
A Future-Ready STEM High School or Program of Achievement schools applicants must meet additional student achievement measures listed below:

<table>
<thead>
<tr>
<th>Student Achievement</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduation Rate of STEM School or Program</td>
<td>90%</td>
</tr>
<tr>
<td>High School (4-year rate)</td>
<td></td>
</tr>
<tr>
<td>Early College (5 year rate)</td>
<td></td>
</tr>
<tr>
<td>Residential (2 year rate)</td>
<td></td>
</tr>
<tr>
<td>College Readiness of STEM school or program</td>
<td>90% of students have a composite score at 17 or above</td>
</tr>
<tr>
<td>ACT: English, Mathematics, Reading, Science (measured junior year)</td>
<td></td>
</tr>
<tr>
<td>Career Readiness of STEM school or program</td>
<td>90% of CTE Concentrators qualify for a Silver Certificate or above</td>
</tr>
<tr>
<td>WorkKeys: Locating Information, Applied Mathematics, Reading for Information (measured graduating year)</td>
<td></td>
</tr>
</tbody>
</table>

The following components together create the STEM Implementation Rubrics starting on (Page 15) upon which this application is built. Rubrics also located at: http://www.ncpublicschools.org/docs/stem/schools/rubrics/high-school.pdf

Three Principles of STEM Education are priorities that frame quality STEM Education and are grouped as follows:
- Integrated Science, Technology, Engineering, Mathematics (STEM) curriculum, aligned with state, national, international and industry standards
- On-going community and industry engagement
- Connections to postsecondary education

Eleven Attributes of STEM define essential components central to 21st Century Skills and further define the Three Principles of STEM Education (Page 10)
- Integrated Science, Technology, Engineering, Mathematics (STEM) curriculum, aligned with state, national, international and industry standards (Principle)
  Attributes:
  1. Project-based learning with integrated content across STEM subjects
  2. Connections to effective in and out-of-school STEM programs
  3. Integration of technology and virtual learning
  4. Authentic assessment and exhibition of STEM skills
  5. Professional development on integrated STEM curriculum, community/industry partnerships and postsecondary education connections
  6. Outreach, support and focus on underserved, especially females, minorities, and economically disadvantage
• **On-going community and industry engagement (Principle)**

  **Attributes:**
  7. A communicated STEM plan is adopted across education, communities and businesses
  8. STEM work-based learning experiences, to increase interest and abilities in fields requiring STEM skills, for each student and teacher
  9. Business and community partnerships for mentorship, internship and other STEM opportunities that extend the classroom walls

• **Connections to postsecondary education (Principle)**

  **Attributes:**
  10. Alignment of student’s career pathway with post-secondary STEM program(s)
  11. Credit completion at community colleges, colleges and/or universities

**Key Elements** (rows in the rubric) describe the components of the Attributes.

**Levels of Achievement** (columns in the rubric) describe the level of performance attained by the School or Program.

- “Model” Highest level of achievement representing a model
- “Prepared” Quality program meeting expectations
- “Developing” Needs improvement but program has a good start
- “Early” Beginning STEM program

**Quality Indicators** (cells in the rubric) clarify the performance expectations of each Level of Achievement.

### STEM Rubric Components

**North Carolina Schools**

![STEM Rubric Diagram](image-url)
3. Application Components:

*NC STEM Recognition Application consists of the following components:*

- Cover Page *(Form A)*
- Contents Checklist *(Form B)*
- STEM Attribute Implementation Summary Self-Assessment Rubric for Schools or Programs *(Form C1)* or
  STEM Attribute Implementation Summary Self-Assessment Rubric for Future-Ready Schools/Programs of Achievement *(Form C2)*
- Application Response Template *(Form D)* which includes:
  - Key Element narrative responses and linked evidences
- Executive Summary *(Form D)*
- Best Practice Evidence Response *(Form D)*
- Signature Endorsement page *(Form F)*
- NC STEM Attribute Implementation Rubrics: These rubrics provide guidance for your school to review to understand the criteria and expectations, upon which you will base your application narrative and evidences. This Rubric is not to be sent back as part of the application.
  - Elementary School: [http://www.ncpublicschools.org/docs/stem/schools/rubrics/elementary-school.pdf](http://www.ncpublicschools.org/docs/stem/schools/rubrics/elementary-school.pdf)
  - Middle School: [http://www.ncpublicschools.org/docs/stem/schools/rubrics/middle-school.pdf](http://www.ncpublicschools.org/docs/stem/schools/rubrics/middle-school.pdf)
  - High School: [http://www.ncpublicschools.org/docs/stem/schools/rubrics/high-school.pdf](http://www.ncpublicschools.org/docs/stem/schools/rubrics/high-school.pdf)

All components *(Forms A-F)* are to be submitted for the application to be considered a complete application and to be reviewed.

4. Application

This *PDF document* is intended for guidance and hard copy reference; it also outlines the process and procedure for application submittals.

Google forms and a formal 2019 *NC STEM Recognition Application Packet* will be disseminated to schools planning to apply for recognition. Elementary, middle, and high school programs planning to submit an application for STEM Recognition are to contact: Howard Ginsburg howard.ginsburg@dpi.nc.gov for the Google form and the formal application.

- Google form provides a workspace for schools to collaboratively collect and develop application responses
- Formal application document is used to complete and submit all components Forms A-F; which includes importing narrative responses and evidences into the templates
- Submit no later than 5:00 pm Friday, February 1, 2019 to howard.ginsburg@dpi.nc.gov

*The formal 2019 NC STEM Recognition Application Packet begins on next page*
Cover Page
NC STEM Recognition Application

Form A

School Name: ____  School System: ____

Date Application Submitted: ____/____/____

Main Point of Contact Information

Name: ____
Address: ____
City, State, Zip: ____
Email: ____
Phone: ____ - ____

SELECT ONE: *

☐ High School
☐ High School Program
☐ Future-Ready High School of Achievement
☐ Middle School
☐ Middle School Program
☐ Elementary School
☐ Elementary School Program
☐ Other grade combination: (List): ____

SELECT below that Apply:

☐ Public School
☐ Early College HS
☐ Regional
☐ Residential
☐ Charter School
☐ ** Private School
☐ Urban School
☐ Rural School

Number of Students in your School/Program: _____
Number of Teachers in your School/Program: _____

Career Cluster Area(s): _____

Curriculum used in classrooms:
Name: ____
Developed by: ____
Date: ____/____/____
List additional, if applicable: ____

* Definitions of STEM School or Program refer to page (4). Future-Ready STEM High School or Program of Achievement refer to page (4).

** Private schools attaining the “prepared” or “model” levels of distinction are recognized by The NC Science, Mathematics, and Technology Education Center

Due Date: February 1, 2019
## Contents Checklist
### NC STEM Recognition Application

Form B

<table>
<thead>
<tr>
<th>Check List</th>
<th>Application Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>Insert your School/Program Name and School System Name on Title Page of Application</td>
<td>1</td>
</tr>
<tr>
<td>[ ]</td>
<td>NC STEM Attribute Implementation Rubric links reviewed for your School’s level</td>
<td>7</td>
</tr>
<tr>
<td>[ ]</td>
<td>STEM Application Cover Page (Form A)</td>
<td>8</td>
</tr>
<tr>
<td>[ ]</td>
<td>STEM Application Contents Checklist (Form B)</td>
<td>9</td>
</tr>
<tr>
<td>[ ]</td>
<td>NC STEM Attribute Implementation Rubric Summary Self-Assessment School or Program Form (Form C1) OR</td>
<td>10</td>
</tr>
<tr>
<td>[ ]</td>
<td>NC STEM Attribute Implementation Rubric Summary Self-Assessment Future-Ready School/Program of Achievement Form (Form C2) High School Only</td>
<td>12</td>
</tr>
<tr>
<td>[ ]</td>
<td>Executive Summary (Form D)</td>
<td>15</td>
</tr>
<tr>
<td>[ ]</td>
<td>STEM Best Practice (Form D)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td><strong>Principle:</strong> Integrated Science, Technology, Engineering and Mathematics (STEM) curriculum, aligned with state, national, international and industry standards</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>Attribute Evidence(s) for each below (Form D)</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>1) Project-based learning with integrated content across STEM subjects</td>
<td>16</td>
</tr>
<tr>
<td>[ ]</td>
<td>2) Connections to effective in and out-of-school STEM programs</td>
<td>18</td>
</tr>
<tr>
<td>[ ]</td>
<td>3) Integration of technology and virtual learning</td>
<td>20</td>
</tr>
<tr>
<td>[ ]</td>
<td>4) Authentic assessment and exhibition of STEM skills</td>
<td>22</td>
</tr>
<tr>
<td>[ ]</td>
<td>5) Professional development on integrated STEM curriculum, community/industry partnerships and postsecondary education connections</td>
<td>24/25</td>
</tr>
<tr>
<td>[ ]</td>
<td>6) Outreach, support and focus on underserved, especially females, minorities, and economically disadvantaged</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td><strong>Principle:</strong> On Going community and industry engagement</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>Attribute Evidence(s) for each (Form D)</td>
<td></td>
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<tr>
<td>[ ]</td>
<td>7) A communicated STEM plan is adopted across education, communities and businesses</td>
<td>28</td>
</tr>
<tr>
<td>[ ]</td>
<td>8) STEM work-based learning experiences, to increase interest and abilities in fields requiring STEM skills, for each student and teacher</td>
<td>30/31</td>
</tr>
<tr>
<td>[ ]</td>
<td>9) Business and community partnerships for mentorship, internship and other STEM opportunities that extend the classroom walls</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td><strong>Principle:</strong> Connections to postsecondary education</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>Attribute Evidence(s) for each (Form D)</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>10) Alignment of student’s career pathway with post-secondary STEM program(s)</td>
<td>35</td>
</tr>
<tr>
<td>[ ]</td>
<td>11) Credit completion at community colleges, colleges and/or universities - <strong>High School Only</strong></td>
<td>37/38</td>
</tr>
<tr>
<td>[ ]</td>
<td>STEM Application Signature Page (Form F)</td>
<td>40</td>
</tr>
</tbody>
</table>
STEM Attribute Implementation Summary Self-Assessment Rubric
School/Program Template

School Name: _____
School System: _____

Select either School or Program
- North Carolina STEM School
- North Carolina STEM Program

Select School Level
- Elementary
- Middle
- High

<table>
<thead>
<tr>
<th>STEM Attributes</th>
<th>Self-Assessment of Your School (mark E, D, P, M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference NC STEM Attribute Implementation Rubric at: <a href="http://www.ncpublicschools.org/">www.ncpublicschools.org/</a></td>
<td></td>
</tr>
<tr>
<td>stem/schools</td>
<td></td>
</tr>
<tr>
<td>Integrated Science, Technology, Engineering and Mathematics (STEM)</td>
<td></td>
</tr>
<tr>
<td>curriculum, aligned with state, national, international and industry standards</td>
<td></td>
</tr>
<tr>
<td>1) Project-based learning with integrated content across STEM subjects</td>
<td></td>
</tr>
<tr>
<td>1.1 Frequency of Project-based Learning</td>
<td></td>
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<tr>
<td>1.2 Frequency of STEM Integration</td>
<td></td>
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<tr>
<td>1.3 Collaborative Professional Learning Communities</td>
<td></td>
</tr>
<tr>
<td>1.4 Physical Space</td>
<td></td>
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<tr>
<td>2) Connections to effective in and out-of-school</td>
<td></td>
</tr>
<tr>
<td>2.1 STEM Network</td>
<td></td>
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<tr>
<td>2.2 Students and STEM Professionals</td>
<td></td>
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<tr>
<td>2.3 Research and Development</td>
<td></td>
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<tr>
<td>3) Integration of technology and virtual learning</td>
<td></td>
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<tr>
<td>3.1 Instructional Technology for STEM</td>
<td></td>
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<tr>
<td>3.2 Instructional Technology Resources for STEM</td>
<td></td>
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<tr>
<td>3.3 Computer &amp; Web-based Technology</td>
<td></td>
</tr>
<tr>
<td>3.4 Tech Support</td>
<td></td>
</tr>
<tr>
<td>4) Authentic assessment and exhibition of STEM skills</td>
<td></td>
</tr>
<tr>
<td>4.1 Authentic Assessments</td>
<td></td>
</tr>
<tr>
<td>4.2 Teachers Collaboratively Develop Assessments</td>
<td></td>
</tr>
<tr>
<td>4.3 Celebrate STEM Work</td>
<td></td>
</tr>
<tr>
<td>4.4 Culture of Innovation</td>
<td></td>
</tr>
<tr>
<td>5) Professional development on integrated STEM curriculum,</td>
<td></td>
</tr>
<tr>
<td>community/industry partnerships and postsecondary education connections</td>
<td></td>
</tr>
<tr>
<td>5.1 Individualized Professional Development (PD)</td>
<td></td>
</tr>
<tr>
<td>5.2 Job-embedded PD</td>
<td></td>
</tr>
<tr>
<td>5.3 Specific to Teachers and Students</td>
<td></td>
</tr>
<tr>
<td>5.4 Frequency of PD</td>
<td></td>
</tr>
</tbody>
</table>

Continued on next page
<table>
<thead>
<tr>
<th>STEM Attributes</th>
<th>Self-Assessment of Your School (mark E, D, P, M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6) Outreach, support and focus on underserved, especially females, minorities, and economically disadvantaged</td>
<td>—</td>
</tr>
<tr>
<td>6.2 Culture of Inquiry</td>
<td>—</td>
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<tr>
<td>6.2 Recognize Under-Represented Students</td>
<td>—</td>
</tr>
<tr>
<td><strong>On-going community and industry engagement</strong></td>
<td>—</td>
</tr>
<tr>
<td>7) A communicated STEM plan is adopted across education, communities and businesses</td>
<td>—</td>
</tr>
<tr>
<td>7.1 STEM Program Plan</td>
<td>—</td>
</tr>
<tr>
<td>7.2 Communicate STEM Program Plan</td>
<td>—</td>
</tr>
<tr>
<td>7.3 Program Data</td>
<td>—</td>
</tr>
<tr>
<td>7.4 Resource Allocation</td>
<td>—</td>
</tr>
<tr>
<td>8) STEM work-based learning experiences, to increase interest and abilities in fields requiring STEM skills, for each student and teacher</td>
<td>—</td>
</tr>
<tr>
<td>8.1 Learning Connected to Industries</td>
<td>—</td>
</tr>
<tr>
<td>8.2 Students Work in Teams</td>
<td>—</td>
</tr>
<tr>
<td>8.3 Applied Learning for STEM Teachers</td>
<td>—</td>
</tr>
<tr>
<td>8.4 Students Interact with STEM Industries [High School Only]</td>
<td>—</td>
</tr>
<tr>
<td>9) Business and community partnerships for mentorship, internship and other STEM opportunities that extend the classroom walls</td>
<td>—</td>
</tr>
<tr>
<td>9.1 Collaboration in Network of Schools</td>
<td>—</td>
</tr>
<tr>
<td>9.2 Communication Tools</td>
<td>—</td>
</tr>
<tr>
<td>9.3 Stakeholders and Funding</td>
<td>—</td>
</tr>
<tr>
<td><strong>Connections with postsecondary education</strong></td>
<td>—</td>
</tr>
<tr>
<td>10) Alignment of student’s career pathway with post-secondary STEM program(s)</td>
<td>—</td>
</tr>
<tr>
<td>10.1 Vertical Planning</td>
<td>—</td>
</tr>
<tr>
<td>10.2 Information Sharing</td>
<td>—</td>
</tr>
<tr>
<td>10.3 Diverse Course Selection [High School Only]</td>
<td>—</td>
</tr>
<tr>
<td>10.3 Career Exploration for Students [Elementary and Middle Schools Only]</td>
<td>—</td>
</tr>
<tr>
<td>10.4 Counselor and Student Relationships [High School Only]</td>
<td>—</td>
</tr>
<tr>
<td>10.5 Counselors and Teachers [High School Only]</td>
<td>—</td>
</tr>
<tr>
<td>11) Credit completion at community colleges, colleges and/or universities – [High School Only]</td>
<td>—</td>
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<tr>
<td>11.1 Credit of Completion Availability [High School Only]</td>
<td>—</td>
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<tr>
<td>11.2 Student Enrollment [High School Only]</td>
<td>—</td>
</tr>
<tr>
<td>11.3 Comprehensive Advising [High School Only]</td>
<td>—</td>
</tr>
<tr>
<td><strong>Best Practice</strong></td>
<td>—</td>
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<tr>
<td>STEM Best Practice</td>
<td>—</td>
</tr>
</tbody>
</table>
### Student Achievement

<table>
<thead>
<tr>
<th>Target</th>
<th>% Score</th>
<th>Composite Score/Certificate Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduation Rate of STEM School or Program</td>
<td>90%</td>
<td>%</td>
</tr>
<tr>
<td>College Readiness of STEM school or program</td>
<td>90%</td>
<td>%</td>
</tr>
<tr>
<td>Career Readiness of STEM school or program</td>
<td>90%</td>
<td>%</td>
</tr>
</tbody>
</table>

### STEM Attributes

- **Reference NC STEM Attribute Implementation Rubric at:**
  - [www.ncpublicschools.org/stem/schools](http://www.ncpublicschools.org/stem/schools)

<table>
<thead>
<tr>
<th>Integrated Science, Technology, Engineering and Mathematics (STEM) curriculum, aligned with state, national, international and industry standards CONTINUED from previous page</th>
<th>Schools COMPLETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTINUED from previous page</td>
<td></td>
</tr>
<tr>
<td>1) Project-based learning with integrated content across STEM subjects</td>
<td>_</td>
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<td>2) Connections to effective in &amp; out-of-school STEM programs</td>
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<tr>
<td>3.2 Instructional Technology Resources for STEM</td>
<td>_</td>
</tr>
<tr>
<td>3.3 Computer &amp; Web-based Technology</td>
<td>_</td>
</tr>
<tr>
<td>3.4 Tech Support</td>
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</tr>
</tbody>
</table>

Continued on next page
<table>
<thead>
<tr>
<th>Schools COMPLETE</th>
<th>Self-Assessment of Your School (mark E, D, P, M)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEM Attributes</strong></td>
<td></td>
</tr>
<tr>
<td>Reference NC STEM Attribute Implementation Rubric at: <a href="http://www.ncpublicschools.org/stem/schools">www.ncpublicschools.org/stem/schools</a></td>
<td></td>
</tr>
</tbody>
</table>

4) Authentic assessment and exhibition of STEM skills
4.1 Authentic Assessments
4.2 Teachers Collaboratively Develop Assessments
4.3 Celebrate STEM Work
4.4 Culture of Innovation

5) Professional development on integrated STEM curriculum, community/industry partnerships and postsecondary education connections
5.1 Individualized Professional Development (PD)
5.2 Job-embedded PD
5.3 Specific to Teachers and Students
5.4 Frequency of PD

6) Outreach, support and focus on underserved, especially females, minorities, and economically disadvantaged
6.2 Culture of Inquiry
6.2 Recognize Under-Represented Students

**On-going community and industry engagement**

7) A communicated STEM plan is adopted across education, communities and businesses
7.1 STEM Program Plan
7.2 Communicate STEM Program Plan
7.3 Program Data
7.4 Resource Allocation

8) STEM work-based learning experiences, to increase interest and abilities in fields requiring STEM skills, for each student and teacher
8.1 Learning Connected to Industries
8.2 Students Work in Teams
8.3 Applied Learning for STEM Teachers
8.4 Students Interact with STEM Industries [High School Only]

9) Business and community partnerships for mentorship, internship and other STEM opportunities that extend the classroom walls
9.1 Collaboration in Network of Schools
9.2 Communication Tools
9.3 Stakeholders and Funding

Continued on next page
| Connections with postsecondary education | |
| 10) Alignment of student’s career pathway with post-secondary STEM program(s) | |
| 10.1  Vertical Planning | |
| 10.2  Information Sharing | |
| 10.3  Diverse Course Selection | |
| 10.4  Counselor and Student Relationships | |
| 10.5  Counselors and Teachers | |
| 11) Credit completion at community colleges, colleges and/or universities - **High School Only** | |
| 11.1  Credit of Completion Availability **High School Only** | |
| 11.2  Student Enrollment **High School Only** | |
| 11.3  Comprehensive Advising **High School Only** | |

**Best Practice**

STEM Best Practice
**Application Response Template**  
**for High Schools**  
**NC STEM Attribute/Key Element Response Template**  

**Form: D**

School Name: _____  
School System Name: _____  
Date: __/__/____

The High school Implementation Rubric contains (11) STEM Attributes

**IMPORTANT NOTE:** An Executive Summary component has been added to the application. In addition, the Best Practice narrative has been moved to the first page of the application. **FORM D** now includes the Executive Summary, Best Practice and the Attribute Narratives.

### School Executive Summary Overview

This section provides an opportunity for a team of reviewers to quickly become acquainted with your school and community matrix. Notes may include but not limited to: size of school, teacher/student ratio, teachers per grade level, urban or rural, early college high school, regional or residential, comprehensive school, program or career cluster(s) or theme focus, economic and community focus, demographics, or include any other designations you school or staff have received.

**School Executive Summary:**

<table>
<thead>
<tr>
<th>STEM BEST PRACTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of Best Practice:</strong></td>
</tr>
<tr>
<td><strong>Check Your Schools Self-Assessment</strong></td>
</tr>
</tbody>
</table>
| [ ] = Model  
| [ ] = Prepared  
| [ ] = Developing  
| [ ] = Early |

**School Narrative:**

**Link Evidence:**

**Reviewer Comments Best Practice:**

**Reviewers Assessment (M, P, D, E):**

**End: Best Practice**
### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### 1) Project-based learning with integrated content across STEM subjects

**Key Element 1.1** Frequency of Project-based Learning

<table>
<thead>
<tr>
<th>Check Your Schools Self-Assessment</th>
<th>Early</th>
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<th>Prepared</th>
<th>Model</th>
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</table>

[1] Project-based learning (PBL) activities have students working in small, collaborative groups; the groups go through a process of inquiry and eventually produce high-quality products/presentations; projects can mirror the real work of professionals and move beyond classroom in purpose or audience.

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 1.1:**

---

### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### 1) Project-based learning with integrated content across STEM subjects

**Key Element 1.2** Frequency of STEM Integration

<table>
<thead>
<tr>
<th>Check Your Schools Self-Assessment</th>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
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<tbody>
<tr>
<td>Model</td>
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<tr>
<td>Early</td>
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</tbody>
</table>

Up to 25% of STEM core and elective teachers regularly make explicit efforts to integrate science, technology, engineering and math, requiring students to organize knowledge.

25-50% of STEM core and elective teachers regularly make explicit efforts to integrate science, technology, engineering and math, requiring students to organize knowledge.

50-75% of STEM core and elective teachers regularly make explicit efforts to integrate science, technology, engineering and math, requiring students to organize knowledge.

Over 75% of STEM core and elective teachers regularly make explicit efforts to integrate science, technology, engineering and math, requiring students to organize knowledge.
STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

1) Project-based learning with integrated content across STEM subjects

<table>
<thead>
<tr>
<th>Key Element 1.3 Collaborative Professional Learning Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early</td>
</tr>
<tr>
<td>Semiannually, STEM teachers share STEM activities or ideas and plan learning outcomes through professional learning community meetings and common planning time</td>
</tr>
</tbody>
</table>

School Narrative:

Link Evidence:

Reviewer Comments 1.2

Reviewers Assessment (M, P, D, E): 

STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

1) Project-based learning with integrated content across STEM subjects

<table>
<thead>
<tr>
<th>Key Element 1.4 Physical Space</th>
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</thead>
</table>

Check Your Schools Self-Assessment

- Model
- Prepared
- Developing
- Early
<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>On special occasions computer labs or classrooms are transformed into collaborative spaces and project work areas for face-to-face and/or virtual collaboration among students and teachers, or to be used as exhibition spaces</td>
<td>Occasionally computer labs or classrooms are transformed into collaborative spaces and project work areas for face-to-face and/or virtual collaboration among students and teachers, or to be used as exhibition spaces</td>
<td>Frequently computer labs or classrooms are transformed into collaborative spaces and project work areas for face-to-face and/or virtual collaboration among students and teachers, or to be used as exhibition spaces; may include a STEM lab</td>
<td>One or more facilities or spaces are available specifically for students to collaborate and do project work; the spaces can be used for face-to-face and/or virtual collaboration among students and teachers; they can also be used as exhibition spaces; may include a STEM lab</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 1.4 :** Reviewers Assessment (M, P, D, E):

**STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard**

2) Connections to effective in -and out-of-school STEM programs

**Key Element 2.1 STEM Network**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>School/program is seeking to establish partnerships with other schools, communities, postsecondary institutions, and businesses to identify solutions for building a quality STEM school/program</td>
<td>School/program engages with other schools, communities, postsecondary institutions, and businesses to identify solutions for executing a quality STEM school/program</td>
<td>School/program has documented partnerships with other schools, communities, postsecondary institutions, and businesses to identify solutions for executing a quality STEM school/program</td>
<td>School/program has partnerships with other schools, communities, postsecondary institutions, and businesses to identify solutions for executing a quality STEM school/program; partnerships are purposeful, mutually beneficial, monitored, and evaluated</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 2.1 :** Reviewers Assessment (M, P, D, E):
### Key Element 2.2 Students and STEM Professionals

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders are creating plans to provide opportunities for students to meet STEM professionals and/or to experience professional STEM work environments during and/or outside school[2]</td>
<td>Direct experiences with STEM professionals, professional STEM work environments, and/or practical applications of STEM content during and/or outside school[2] are available to students at least 2 times throughout the year</td>
<td>Direct experiences with STEM professionals, professional STEM work environments, and/or practical applications of STEM content during and/or outside school[2] are available to students at least 4 times throughout the year</td>
<td>Direct experiences with STEM professionals, professional STEM work environments, and/or practical applications of STEM content during and/or outside school[2] are available to students approximately month</td>
</tr>
</tbody>
</table>

[2] For example, presentations or workshops, field trips, clubs, competitions, study trips, and summer/afterschool/weekend programs taught by STEM teachers and/or industry professionals

### School Narrative:

### Link Evidence:

### Reviewer Comments 2.2:

### Reviewers Assessment (M, P, D, E):

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### Key Element 2.3 Research and Development

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
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</thead>
<tbody>
<tr>
<td>On an annual basis school/program leaders and other STEM teachers share with each other research and information on best practices related to their STEM program</td>
<td>On a semiannual basis school/program leaders and other STEM teachers share with each other research and information on best practices related to their STEM program</td>
<td>On a quarterly basis school/program leaders and other STEM teachers share with each other research and best practices related to their STEM program goals</td>
<td>On a monthly basis school/program leaders and other STEM teachers share with each other research and best practices related to their STEM program goals</td>
</tr>
</tbody>
</table>
### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### 3) Integration of technology and virtual learning

**Key Element 3.1 Instructional Technology for STEM**

<table>
<thead>
<tr>
<th>Check Your Schools Self-Assessment</th>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Technology tools relevant to the STEM program have been identified[3]</td>
<td>Technology tools relevant to the STEM program are available to STEM teachers and students; up to 50% of students and teachers are proficient in these technology tools</td>
<td>Technology tools relevant to the STEM program are being used by most STEM teachers and students; 50-75% of students and teachers are proficient in common technology tools</td>
<td>Technology tools relevant to the STEM program are being used by almost all STEM teachers and students; more than 75% of students and teachers are proficient in common technology tools</td>
</tr>
</tbody>
</table>

[3] For example, spreadsheet applications in biology, robotics in programming, design software in engineering, or calculators in math

### School Narrative:

### Link Evidence:

**Reviewer Comments 3.1 :**

### Reviewers Assessment (M, P, D, E):
<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
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</thead>
<tbody>
<tr>
<td>STEM teachers rarely receive information regarding computer-based and/or online instructional resources for STEM aligned to the NC Essential Standards for Technology (e.g. links to instructional technology tools, articles about effective use of instructional technology, meetings with peers focused on instructional technology, etc.)</td>
<td>STEM teachers annually receive information regarding computer-based and/or online instructional resources for STEM aligned to the NC Essential Standards for Technology (e.g. links to instructional technology tools, articles about effective use of instructional technology, meetings with peers focused on instructional technology, etc.)</td>
<td>STEM teachers semiannually receive information regarding computer-based and/or online instructional resources for STEM aligned to the NC Essential Standards for Technology (e.g. links to instructional technology tools, articles about effective use of instructional technology, meetings with peers focused on instructional technology, etc.)</td>
<td>STEM teachers monthly receive information regarding computer-based and/or online instructional resources for STEM aligned to the NC Essential Standards for Technology (e.g. links to instructional technology tools, articles about effective use of instructional technology, meetings with peers focused on instructional technology, etc.)</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 3.2:**

**Reviewers Assessment (M, P, D, E):**

** STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard**

3) Integration of technology and virtual learning

**Key Element 3.3 Computer and Web-based Technology**

- STEM teachers occasionally use a few computer-based, online, mobile, virtual, and/or other technology tools to support instruction
- STEM teachers weekly use computer-based, online, mobile, virtual, and/or other technology tools to support instruction
- STEM teachers daily use computer-based, online, mobile, virtual, and/or other technology tools, as appropriate, to support instruction; the technology is often in the hands of students
- STEM teachers seamlessly integrate computer-based, online, mobile, virtual, and/or other technology tools into instruction; the technology is consistently in the hands of students

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 3.3:**

**Reviewers Assessment (M, P, D, E):**
### 3) Integration of technology and virtual learning

**Key Element 3.4 Tech Support**

<table>
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<tr>
<th>Check Your Schools Self-Assessment</th>
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<td>☐ = Early</td>
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<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM teachers have limited access to maintenance support for instructional technology; IT equipment is regularly inoperable for extended periods of time</td>
<td>STEM teachers occasionally have access to maintenance support for instructional technology; IT equipment is occasionally inoperable for extended periods of time</td>
<td>STEM teachers have regular access to maintenance support for instructional technology; IT equipment is rarely inoperable for extended periods of time</td>
<td>STEM teachers and students have on-demand access to maintenance support instructional technology; IT equipment is rarely inoperable for extended periods of time</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 3.4:**

**Reviewers Assessment (M, P, D, E):**

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### 4) Authentic assessment and exhibition of STEM skills

**Key Element 4.1 Authentic Assessments**

<table>
<thead>
<tr>
<th>Check Your Schools Self-Assessment</th>
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<td>☐ = Prepared</td>
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<td>☐ = Developing</td>
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<td>☐ = Early</td>
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<tr>
<th>Early</th>
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<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM core and elective teachers are encouraged and supported to use multiple indicators of student success, including knowledge- and performance-based assessments (projects, portfolios, etc.)</td>
<td>As many as 50% of STEM core and elective teachers use multiple indicators of student success, including knowledge- and performance-based assessments (projects, portfolios, etc.)</td>
<td>50-75% of STEM core and elective teachers use multiple indicators of student success, including knowledge- and performance-based assessments (projects, portfolios, etc.) multiple times during the school year</td>
<td>Over 75% of STEM core and elective teachers regularly use multiple indicators of success, including knowledge- and performance-based assessments (projects, portfolios, etc.)</td>
</tr>
</tbody>
</table>

**School Narrative:**
## STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

### 4) Authentic assessment and exhibition of STEM skills

#### Key Element 4.2 Teachers Collaboratively Develop Assessments

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early</td>
<td>Twice a year STEM teachers share assessment strategies</td>
</tr>
<tr>
<td>Developing</td>
<td>Quarterly STEM teachers share assessment strategies; they occasionally co-create measures of student success and examine and reflect on student work</td>
</tr>
<tr>
<td>Prepared</td>
<td>STEM teachers collaborate at least monthly to reflect on student work, to discuss strategies for using the results to inform instruction, and to co-create various measures of student success</td>
</tr>
<tr>
<td>Model</td>
<td>STEM teachers collaborate at least biweekly to reflect on student work, to discuss strategies for using the results to inform instruction, and to co-create various measures of student success</td>
</tr>
</tbody>
</table>

### School Narrative:

#### Link Evidence:

### Reviewer Comments 4.2:

#### Reviewers Assessment (M, P, D, E):

---

## STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

### 4) Authentic assessment and exhibition of STEM skills

#### Key Element 4.3 Celebrate STEM Work

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Early</td>
<td>Students, teachers and administrators annually celebrate high-quality student work in STEM</td>
</tr>
<tr>
<td>Developing</td>
<td>Students, teachers and administrators celebrate high-quality student work in STEM with semiannual</td>
</tr>
<tr>
<td>Prepared</td>
<td>Students, teachers and administrators celebrate high-quality student work in STEM with quarterly on-</td>
</tr>
<tr>
<td>Model</td>
<td>Students, teachers and administrators celebrate high-quality student work in STEM through on-going</td>
</tr>
</tbody>
</table>

### School Narrative:

#### Link Evidence:

### Reviewer Comments 4.2:

#### Reviewers Assessment (M, P, D, E):
### School Narrative:

### Link Evidence:

###Reviewer Comments 4.3:

### Reviewers Assessment (M, P, D, E):

### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### 4) Authentic assessment and exhibition of STEM skills

**Key Element 4.4 Culture of Innovation**

<table>
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<tbody>
<tr>
<td>Program leadership annually honors and encourages innovation in STEM among students</td>
<td>Program leadership semiannually honors and encourages innovation in STEM among students</td>
<td>Program leadership and program participants quarterly honor and encourage innovation in STEM among students</td>
<td>Program culture consistently honors, encourages and incentivizes innovation in STEM among students</td>
</tr>
</tbody>
</table>

### School Narrative:

### Link Evidence:

###Reviewer Comments 4.4:

### Reviewers Assessment (M, P, D, E):

### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### 5) Professional development on integrated STEM curriculum, community/industry partnerships and postsecondary education connections

**Key Element 5.1 Individualized Professional Development PD**

<table>
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</tbody>
</table>
STEM teachers participate in large group professional development sessions that introduce novice STEM teaching skills.

STEM teachers participate in large group professional development sessions focusing on critical STEM teaching skills — may include strategies for inquiry-based instruction, for integrating STEM, or information on cutting edge content.

STEM teachers have identified unique professional development goals and tailor as much as 25% of their STEM professional development activities to meet their individual, professional needs — may include strategies for inquiry-based instruction, for integrating STEM, or information on cutting edge content.

STEM teachers have identified unique professional development goals and tailor at least 50% of their STEM professional development activities to meet their individual needs — may include strategies for inquiry-based instruction, for integrating STEM, or information on cutting edge content.

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 5.1 :**

**Reviewers Assessment (M, P, D, E):**

**STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard**

5) Professional development on integrated STEM curriculum, community/industry partnerships and postsecondary education connections

**Key Element 5.2 Job-embedded PD**

<table>
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<tbody>
<tr>
<td>A job-embedded or practice-based approach to professional development [4] is used twice during the school year for STEM teachers</td>
<td>A job-embedded or practice-based approach to professional development is used quarterly during the school year for STEM teachers</td>
<td>A job-embedded or practice-based approach to professional development is used monthly during the school year for STEM teachers</td>
<td>A job embedded or practice-based approach to professional development is used multiple times a month for STEM teachers</td>
</tr>
</tbody>
</table>

\[4\] Job-embedded professional development includes action research, peer observation, critical friends feedback, curriculum alignment, coaching, lesson study, or problem-solving

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 5.2 :**

**Reviewers Assessment (M, P, D, E):**
### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### Key Element 5.3: Specific to Teachers and Students

Professional development on integrated STM curriculum, community/industry partnerships and postsecondary education connections

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<tbody>
<tr>
<td>Professional development activities for STEM teachers focus on standardized, scripted teaching strategies</td>
<td>On an annual basis professional development activities for STEM teachers focus on strategies for teaching specific content to specific types of learners [5]</td>
<td>On a quarterly basis professional development activities for STEM teachers focus on strategies for teaching specific content to specific types of learners</td>
<td>Professional development activities for STEM teachers that focus on strategies for teaching specific content to specific types of learners are frequently available</td>
</tr>
</tbody>
</table>

[5] Specific by content area and grade-level, and for either high-performing, low-performing, average-performing, English as Second Language, or Exceptional Children, etc.

### School Narrative:

#### Link Evidence:

Reviewer Comments 5.3:

Reviewers Assessment (M, P, D, E):

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### STEM Principle: Integrated Science, Technology, Engineering, and Mathematics (STEM) curriculum, aligned with state, national, international, and industry standard

#### Key Element 5.4 Frequency of PD

Professional development on integrated STM curriculum, community/industry partnerships and postsecondary education connections

<table>
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<th>Early</th>
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<th>Prepared</th>
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</tr>
</thead>
<tbody>
<tr>
<td>STEM teachers participate in 10-20 hours per year of STEM-related professional development which addresses integrated content, community/industry partnerships, connections with postsecondary education, pedagogy, and/or digital learning</td>
<td>STEM teachers participate in 20-25 hours per year of STEM-related professional development which addresses integrated content, community/industry partnerships, connections with postsecondary education, pedagogy, and/or digital learning</td>
<td>STEM teachers participate in 25-30 hours per year of STEM-related professional development which addresses integrated content, community/industry partnerships, connections with postsecondary education, pedagogy, and/or digital learning</td>
<td>STEM teachers participate in 30 or more hours per year of STEM-related professional development which addresses integrated content, community/industry partnerships, connections with postsecondary education, pedagogy, and/or digital learning</td>
</tr>
</tbody>
</table>
### Key Element 6.1 Culture of Inquiry

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early</td>
<td>A few school/program leaders have articulated what a culture of inquiry and creativity looks like as it relates to STEM, emphasizing the inclusion of all students in the culture.</td>
</tr>
<tr>
<td>Developing</td>
<td>A core group of school/program participants maintain a culture of inquiry and creativity as it relates to STEM, and emphasize the inclusion of all students in the culture.</td>
</tr>
<tr>
<td>Prepared</td>
<td>A culture of inquiry and creativity exists throughout a majority of participants in the STEM school/program and emphasizes the inclusion of all students in the culture.</td>
</tr>
<tr>
<td>Model</td>
<td>A culture of inquiry and creativity exists between and among the STEM school/program students, teachers and administrators and emphasizes the inclusion of all students in the culture.</td>
</tr>
</tbody>
</table>

### Key Element 6.2 Recognize Underrepresented Students

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early</td>
<td></td>
</tr>
<tr>
<td>Developing</td>
<td></td>
</tr>
<tr>
<td>Prepared</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
</tr>
</tbody>
</table>

### Reviewer Comments 5.4

**Reviewer Comments 5.4:**

**Reviewer Comments 6.1:**
No clear guidelines and/or practices explicitly focus on increasing long-term participation by students from underrepresented groups[1] in the STEM education pipeline

1 guideline and/or practice focuses on increasing long-term participation by students from underrepresented groups in the STEM education pipeline

At least 2 guidelines and/or practices focus on increasing long-term participation by students from underrepresented groups in the STEM education pipeline

Several guidelines and/or practices focus on increasing long-term participation by students from underrepresented groups in the STEM education pipeline

---

[6] In North Carolina and nationally groups of students underrepresented in stages of the education and workforce pipeline include female students, students of color, and students from low socio-economic backgrounds

---

School Narrative:

Link Evidence:

Reviewer Comments 6.2 :

---

**STEM Principle: On-going community and industry engagement**

7) A communicated STEM plan is adopted across education, communities, and businesses

**Key Element 7.1 STEM Program Plan**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program leaders have created a basic STEM program plan[7] in which actions toward 1-4 STEM Attributes are outlined</td>
<td>Program leaders have created a detailed STEM program plan[7] grounded in research and in which actions toward 5-10 STEM Attributes are outlined</td>
<td>At least 50% or more of a STEM Leadership Team[8] is formed and has created a STEM program plan[7] that is grounded in research, aligned with school and/or school-system strategic plans, focused on student participation in the STEM pipeline[9], and outlines action toward 11 STEM Attributes</td>
<td>A fully-formed STEM Leadership Team[8] has led stakeholders in a collaborative design process to create a STEM program plan[7] that is aligned with school and/or school-system strategic plans, focused on student participation in the STEM pipeline[8], and demonstrates evidence of 11 STEM Attributes</td>
</tr>
</tbody>
</table>

---

[7] A school- or district-level STEM plan which already exists, including detailed sections in a School Improvement Plan or a 5 Year Plan, may be substituted

[8] A fully-formed STEM Leadership Team is at the school-level, and includes at least 1 or more representatives of the following groups: students, teachers, administrators, community college staff, college or university staff, business persons (at least one person for each career pathway, if pathways are a focus), community leaders, and parents

[9] This includes student participation in any identified STEM career pathways/clusters
**STEM Principle: On-going community and industry engagement**

### Key Element 7.1: School Narrative

**A communicated STEM plan is adopted across education, communities, and businesses**

**Check Your Schools Self-Assessment**

- Model
- Prepared
- Developing
- Early

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program leaders’ communication of the STEM program plan garners minimal participation and buy-in from STEM teachers and key stakeholders</td>
<td>Program leaders’ annual communication of the STEM program plan develops some participation and buy-in from STEM teachers and key stakeholders</td>
<td>Program leaders’ semi-annual communication of the STEM program plan develops participation and buy-in from STEM teachers and key stakeholders</td>
<td>Program leaders’ quarterly communication of the STEM program plan secures participation and buy-in from STEM teachers and key stakeholders</td>
</tr>
</tbody>
</table>

### Key Element 7.2: Reviewer Comments

**Check Your Schools Self-Assessment**

- Model
- Prepared
- Developing
- Early

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program leaders’ communication of the STEM program plan garners minimal participation and buy-in from STEM teachers and key stakeholders</td>
<td>Program leaders’ annual communication of the STEM program plan develops some participation and buy-in from STEM teachers and key stakeholders</td>
<td>Program leaders’ semi-annual communication of the STEM program plan develops participation and buy-in from STEM teachers and key stakeholders</td>
<td>Program leaders’ quarterly communication of the STEM program plan secures participation and buy-in from STEM teachers and key stakeholders</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 7.1:**

**Reviewers Assessment (M, P, D, E):**

### Key Element 7.3: Program Data

**Check Your Schools Self-Assessment**

- Model
- Prepared
- Developing
- Early

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>A variety of school/program-level student data on STEM</td>
<td>A variety of school/program-level student data on STEM</td>
<td>A variety of school/program-level student data on STEM</td>
<td>A variety of school/program-level student data on STEM</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 7.2:**

**Reviewers Assessment (M, P, D, E):**
<table>
<thead>
<tr>
<th>School Narrative:</th>
<th>Link Evidence:</th>
<th>Reviewer Comments 7.3:</th>
</tr>
</thead>
</table>

**Reviewer Comments 7.3:**

**Reviewer Comments 7.4:**

---

### STEM Principle: On-going community and industry engagement

#### 7) A communicated STEM plan is adopted across education, communities, and businesses

**Key Element 7.4** Resource Allocation

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited discretionary funds or other resources are allocated for implementation of STEM strategies</td>
<td>Discretionary funds or other resources are allocated to advance implementation of some strategies outlined in the STEM Program Plan</td>
<td>Discretionary funds or other resources are allocated to advance implementation of most of the STEM strategies outlined in the STEM Program Plan and a sustainability plan is in place</td>
<td>Discretionary funds or other resources are allocated to advance implementation of all the strategies outlined in the STEM Program Plan and a sustainability plan is in place</td>
</tr>
</tbody>
</table>

**Reviewer Comments 7.4:**

**Reviewer Comments 7.5:**

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### STEM Principle: On-going community and industry engagement

#### 8) STEM work-based learning experiences to increase interest and abilities in fields requiring STEM skills for each student and teacher

**Key Element 8.1** Learning Connected to Industry
Program leaders are researching and planning in-school learning opportunities for students on content that is directly connected to current work in STEM-related industries.

### Early
- 1-2 in-school learning opportunities (projects, activities, etc.) for all students focus on content directly connected to current work in STEM-related industries.

### Developing
- Several in-school learning opportunities (projects, activities, etc.) for all students focus on content directly connected to current work in STEM-related industries.

### Prepared
- In-school learning opportunities (projects, activities, etc.) for all students frequently focus on content directly connected to current work in STEM-related industries.

### Model
- Several in-school learning opportunities (projects, activities, etc.) for all students focus on content directly connected to current work in STEM-related industries.

#### School Narrative:

#### Link Evidence:

**Reviewer Comments 8.1:**

**Reviewers Assessment (M, P, D, E):**

---

**Key Element 8.2 Students Work in Teams**

**Check Your Schools Self-Assessment**

- Students rarely learn in teams to frame problems and test solutions that incorporate STEM content and/or apply STEM skills.

- Students occasionally learn in teams, with clearly defined individual and team expectations, to frame problems and test solutions that incorporate STEM content and/or apply STEM skills.

- Students regularly learn in teams, with clearly defined individual and team expectations, to frame problems and test solutions that incorporate STEM content and/or apply STEM skills.

### Early

### Developing

### Prepared

### Model
## STEM Principle: On-going community and industry engagement

### 8) STEM work-based learning experiences to increase interest and abilities in fields requiring STEM skills for each student and teacher

#### Key Element 8.3 Applied Learning for STEM Teachers

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very few STEM teachers ever participate in applied learning experiences[10] to increase their STEM content or career knowledge</td>
<td>At least 25-50% of STEM teachers participate every-other-year in at least 1 applied learning experience[11] to increase their STEM content or career knowledge</td>
<td>50-75% of STEM teachers participate every-other-year in at least one applied learning experience[11] to increase their STEM content or career knowledge</td>
<td>Over 75% of STEM teachers participate every-other-year in at least one applied learning experience[11] to increase their STEM content or career knowledge</td>
</tr>
</tbody>
</table>

[10] For example, study trips, fellowships, externships, etc.; durations of experiences could vary from 1 day to 1 year

#### School Narrative:

#### Link Evidence:

#### Reviewer Comments 8.3:

#### Reviewers Assessment (M, P, D, E):

---

## STEM Principle: On-going community and industry engagement

### 8) STEM work-based learning experiences to increase interest and abilities in fields requiring STEM skills for each student and teacher

#### Key Element 8.4 Students Interact with STEM Industries

High School only

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students rarely have an active, work-based learning experience[1] with an external STEM industry partner, either during or outside of the school day</td>
<td>At least 25% of students have at least 1 active, work-based learning experience annually with an external STEM industry partner, either during or outside of the school day</td>
<td>At least 50% of students have at least 1 active, work-based learning experience annually with an external STEM industry partner, either during or outside of the school day</td>
<td>At least 75% of students have an active, work-based learning experience annually with an external STEM industry partner, either during or outside of the school day</td>
</tr>
</tbody>
</table>

[11] An active, work-based learning experience may include competitions, service-learning, apprenticeships, internships, or other opportunities; durations of experiences could vary from 1 day to 1 year
### STEM Principle: On-going community and industry engagement

#### 9) Business and community partnerships for mentorship, internship and other STEN opportunities that extend the classroom walls

**Key Element 9.1 Collaboration in Network of Schools**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>School/program leadership rarely participate in a network of schools or school leaders which addresses STEM education issues</td>
<td>School/program leadership participates semiannually in an active, online network of schools or school leaders which addresses STEM education issues</td>
<td>School/program leadership participates annually in a face-to-face or at least quarterly in an active, online network of schools or school leaders which addresses STEM education issues</td>
<td>School/program leadership participates annually in a face-to-face and at least quarterly in an active, online network of schools or school leaders which addresses STEM education issues</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 9.1:**

**Reviewers Assessment (M, P, D, E):**

---

#### 9) Business and community partnerships for mentorship, internship and other STEN opportunities that extend the classroom walls

**Key Element 9.2 Communication Tools**

---
<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-way communication tools, such as websites and newsletters, and/or two-way tools, like social media platforms, webinars, and meetings, are used annually to communicate internally and externally about STEM program activities</td>
<td>One-way communication tools, such as websites and newsletters, and/or two-way tools, like social media platforms, webinars, and meetings, are used semiannually to communicate internally and externally about STEM program activities</td>
<td>One-way communication tools, such as websites and newsletters, and/or two-way tools, like social media platforms, webinars, and meetings, are used quarterly to communicate internally and externally about STEM program activities</td>
<td>One-way communication tools, such as websites and newsletters, and/or two-way tools, like social media platforms, webinars, and meetings, are used monthly to communicate internally and externally about STEM program activities</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 9.2:**

**Reviewers Assessment (M, P, D, E):**

**STEM Principle: On-going community and industry engagement**

9) Business and community partnerships for mentorship, internship and other STEN opportunities that extend the classroom walls

**Key Element 9.3 Stakeholders and Funding**

**Check Your Schools Self-Assessment**

- **Early**
- **Developing**
- **Prepared**
- **Model**

A team of community stakeholders has assembled to discuss STEM education solutions or to create funding streams

A team of community stakeholders assembles at least every 2 years to discuss STEM education solutions, including long-term funding; these individuals include the STEM Leadership Team, local business partners, and other STEM industry professionals

A team of community stakeholders assembles annually to continue building a STEM program and long-term funding streams; these individuals include the STEM Leadership Team, local business partners, and other STEM industry professionals

A team of community stakeholders assembles semiannually to maintain a STEM program and long-term funding streams; these individuals include the STEM Leadership Team, local business partners, and other STEM industry professionals

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 9.3:**

**Reviewers Assessment (M, P, D, E):**
### STEM Principle: Connections with postsecondary education

#### 10) Alignment of students career pathway with postsecondary STEM program(s)

**Key Element 10.1 Vertical Planning**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 2 years STEM teachers vertically plan within their school; every 2 years STEM teachers plan across school-levels (elementary, middle and high)</td>
<td>Once a year STEM teachers vertically plan within their school; once a year STEM teachers plan across school-levels (elementary, middle and high)</td>
<td>At least twice a year STEM teachers vertically plan within their school; once a year STEM teachers plan across school-levels (elementary, middle and/or high)</td>
<td>At least twice a year STEM teachers vertically plan within schools; twice a year STEM teachers plan across school-levels (elementary, middle, and/or high)</td>
</tr>
</tbody>
</table>

#### School Narrative:

#### Link Evidence:

**Reviewer Comments 10.1:**

**Reviewers Assessment (M, P, D, E):**

---

### STEM Principle: Connections with postsecondary education

#### 10) Alignment of students career pathway with postsecondary STEM program(s)

**Key Element 10.2 Information Sharing**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information about postsecondary STEM programs and STEM career topics is shared annually among counselors and some teachers</td>
<td>Information about postsecondary STEM programs and STEM career topics is shared semi-annually among counselors and some teachers</td>
<td>Information about postsecondary STEM programs and STEM career topics is shared quarterly among counselors and some teachers</td>
<td>Information about postsecondary STEM programs and STEM career topics is shared quarterly among counselors and all teachers</td>
</tr>
</tbody>
</table>

#### School Narrative:

#### Link Evidence:
### STEM Principle: Connections with postsecondary education

**10) Alignment of students career pathway with postsecondary STEM program(s)**

**Key Element 10.3** Diverse Course Selection

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses in 1 STEM-related career field are available to students</td>
<td>Courses in 2-3 STEM-related career fields are available to students both face-to-face and/or virtually</td>
<td>Courses in 4 STEM-related career fields are available to students both face-to-face and/or virtually</td>
<td>A wide variety of courses in STEM-related career fields are available to students both face-to-face and/or virtually</td>
</tr>
</tbody>
</table>

**Check Your Schools Self-Assessment**

- □ = Model
- □ = Prepared
- □ = Developing
- □ = Early

**School Narrative:**

**Link Evidence:**

### STEM Principle: Connections with postsecondary education

**10) Alignment of students career pathway with postsecondary STEM program(s)**

**Key Element 10.4 Counselor and Student Relationships**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselors and students interested in STEM communicate rarely about the students’ future plans and coursework</td>
<td>Counselors and students interested in STEM communicate at least annually in a face-to-face and/or virtual setting about the students’ future plans and coursework</td>
<td>Counselors and students interested in STEM have developed one-on-one relationships, communicating at least quarterly in a face-to-face or virtual setting to discuss, plan and track the connections and alignment of students’ plans to careers and postsecondary</td>
<td>Counselors and students interested in STEM have developed one-on-one relationships and use both face-to-face and virtual communication frequently, including at least quarterly face-to-face meetings, to plan, discuss and track the connections and alignment of students’</td>
</tr>
</tbody>
</table>

**Check Your Schools Self-Assessment**

- □ = Model
- □ = Prepared
- □ = Developing
- □ = Early
### STEM Principle: Connections with postsecondary education

#### 10) Alignment of students career pathway with postsecondary STEM program(s)

**Key Element 10.5 Counselors and Teachers**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselors and STEM teachers meet rarely to discuss the alignment of students’ coursework to postsecondary careers and/or education</td>
<td>Counselors and STEM teachers meet annually to discuss the alignment of students’ coursework to postsecondary careers and/or education</td>
<td>Counselors and STEM teachers communicate semiannually to discuss the alignment of students’ coursework to postsecondary careers and/or education</td>
<td>Counselors and STEM teachers communicate at least quarterly (with at least 1 face-to-face meeting) to discuss the alignment of students’ coursework to postsecondary careers and/or education</td>
</tr>
</tbody>
</table>

### School Narrative:

**Link Evidence:**

**Reviewer Comments 10.4:**

**Reviewers Assessment (M, P, D, E):**

#### 11) Credit completion at community colleges, colleges and or universities

**Key Element 11.1 Credit Completion Availability**

<table>
<thead>
<tr>
<th>Check Your Schools Self-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ = Model</td>
</tr>
<tr>
<td>□ = Prepared</td>
</tr>
<tr>
<td>□ = Developing</td>
</tr>
<tr>
<td>□ = Early</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 10.5:**

**Reviewers Assessment (M, P, D, E):**
### STEM Principle: Connections with postsecondary education

#### 11) Credit completion at community colleges, colleges and or universities

**Key Element 11.2 Student Enrollment**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10% of a diverse target group of students are enrolled STEM courses that provide access to postsecondary institutions</td>
<td>10-25% of a diverse target group of students are enrolled STEM courses that provide access to postsecondary institutions</td>
<td>25-50% of a diverse target group of students are enrolled STEM courses that provide access to postsecondary institutions</td>
<td>Over 50% of a diverse target group of students are enrolled STEM courses that provide access to postsecondary institutions</td>
</tr>
</tbody>
</table>

### School Narrative:

#### Link Evidence:

**Reviewer Comments 11.2 :**

**Reviewers Assessment (M, P, D, E):**

---

[12] The NC STEM Program Plan offers three major education choices for students: (1) Future-Ready Core Course of Study including a four elective credit concentration in a STEM field; (2) Career and College Promise with three options: Core 44 College Transfer programs in Engineering and Mathematics or Life and Health Sciences; Career Technical Education Pathway; and Cooperative Innovative High School Program; and/or (3) Access to advanced coursework in college/university courses that lead to a STEM related degree.
STEM Principle: Connections with postsecondary education

11) Credit completion at community colleges, colleges and or universities

**Key Element 11.3 Comprehensive Advising**

<table>
<thead>
<tr>
<th>Early</th>
<th>Developing</th>
<th>Prepared</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselors understand the postsecondary enrollment process but rarely advise students on STEM opportunities</td>
<td>Counselors understand the postsecondary enrollment process and advise students on STEM opportunities</td>
<td>Both counselors and STEM teachers understand the pathway completion and postsecondary enrollment process and occasionally advise students on STEM opportunities</td>
<td>Both counselors and STEM teachers understand the pathway completion and postsecondary enrollment process and regularly advise students on STEM opportunities</td>
</tr>
</tbody>
</table>

**School Narrative:**

**Link Evidence:**

**Reviewer Comments 11.3 :**

**Reviewers Assessment (M, P, D, E):**

End: Attribute Responses
NC STEM Recognition Program Application
Signature Page

**Partners:** The list below represents partners who endorse this STEM School, Program, or Future-Ready School/Program of Achievement. The partners have collaborative involvement with the STEM School or Program.

School Name: _______ School System Name: _______

Signatures are required for the following:

**Superintendent:** ______ Email: ______
Signature: _____________________________

**Principal:** ______ Email: ______
Signature: _____________________________

**Local School Board Member Name:** ______ Email: ______
Signature: _____________________________

**School STEM Leader:** ______ Title: ______
Signature: _____________________________

**Community College Representative Name:** ______ Email: ______
Community College Name: ______
Signature: _____________________________

**College or University Representative Name:** ______ Email: ______
College/University School Name: ______
Signature: _____________________________

**Business Representative Name:** ______ Email: ______
Business Organization Name: ______
Signature: _____________________________

**Other Representative(s) Name:** ______ Email: ______
Affiliation Name: ______
Signature: _____________________________
5. Appendix

**Directions: Submitting an Application**

A. Review the NC STEM Attribute Implementation Rubric for your School or Program grade levels.
   - Elementary: [http://www.ncpublicschools.org/docs/stem/schools/rubrics/elementary-school.pdf](http://www.ncpublicschools.org/docs/stem/schools/rubrics/elementary-school.pdf)
   - Middle: [http://www.ncpublicschools.org/docs/stem/schools/rubrics/middle-school.pdf](http://www.ncpublicschools.org/docs/stem/schools/rubrics/middle-school.pdf)
   - High: [http://www.ncpublicschools.org/docs/stem/schools/rubrics/high-school.pdf](http://www.ncpublicschools.org/docs/stem/schools/rubrics/high-school.pdf)

B. Insert your School and/or Program name and your School System name on the Title page of this document. **First Page**

C. Complete and submit the following documents:
   - Cover Page *(Form A)* Page 8
   - Contents Checklist *(Form B)* Page 9
     - Indicate with a check mark that all components and forms have been included in the application.
   - Complete either the Summary Self-Assessment Implementation Rubric for Schools/Programs Template *(Form C1)* Page 10 or the Summary Self-Assessment Implementation Rubric for Future-Ready School/Program of Achievement Template. *(Form C2)* Page 12
     - Self-assess your school or program Level of Achievement. (Mark on the Summary Self-Assessment Form by indicating either an: E=Early, D=Developing, P=Prepared, or M=Model letter of your school or programs Levels of Achievement). Quality Indicators for all eleven Attributes are to be at the “Prepared” or “Model” level of achievement to be recognized as a NC STEM School.

D. Present narrative responses for each of the Key Element which comprise the 11 STEM Attributes **(Form D) Starting on Page 16**
   - Include evidences of your schools/programs innovative strategies and accomplishments relating to each Key Element. All Key Elements for each Attribute are to be addressed separately within the Attribute. Key Elements are to include electronic evidence as support documentation.
     - Expectations:
       a. Provide data, use student and/or teacher results, and outcomes in your responses. For example: how has the programming and work your school employs impacted teaching and learning: include example(s) of specific outcomes. *(It is suggested for schools to attend scheduled webinars for additional application guidance and process support)*
       b. Use Calibri or Arial font and no smaller than (11) point font
       c. Electronic support documentation:
         a. Supporting artifact evidences may be exemplified as:
            * Links to documents, PowerPoints, or video clips (less than 2 minutes in length)
            * Describe artifact links with a short 1-2 sentence descriptor. For example: Students at our school tap into our community and industry experts in STEM-related fields to brainstorm solutions. Experiences extending outside the classroom are reflected in the following article located at: [http://www.url.org](http://www.url.org)
            * Each Key Element within the Attributes provides space to link supporting evidence.
E. Present an Executive Summary which may include but not limited to: size of school, teacher/student ratio, teachers per grade level, urban or rural, early college high school, regional or residential, comprehensive school, program or career cluster(s) or theme focus, economic and community focus, demographics, or include any other designations you school or staff have received. (Form D) Page 15

F. Submit evidence of one STEM Best Practice (Form D) Page 15
   - Link distinguishing artifacts supporting your schools Best Practice
   - Use Calibri or Arial font and no smaller than (11) point font

G. Submit Signature page (Form F) Page 40
   - Obtain input from education, business, and community partners throughout the process of completing the application
   - Download Signature Page form to obtain each partners signature. Located on Page 40
   - Submit the signed Signature Page as a PDF as an attachment with the Application

H. Submit the application components including the Signature Page on or before 5:00 pm February 1, 2019
   - E-mail application to Howard Ginsburg: howard.ginsburg@dpi.nc.gov
   - Include in the subject line: Application Submittal: 2019 NC STEM Recognition

Achievement Level Criteria

“Prepared” Level of Achievement for High Schools:
- To achieve “Prepared” Level of Achievement: six of the eleven Attributes must be at the “Prepared” Level of Achievement; five of the remaining eleven Attributes must be at the “Prepared” or “Model” Level
- Attributes with 4 Key Elements:
  - Only 1 Key Element may be “Developing” for the Attribute to be considered “Prepared”
- Attributes with 3 or less Key Elements:
  - No Key Element may be “Developing” for the Attribute to be considered at the “Prepared” Level of Achievement

Prepared Level of Achievement for Schools

Prepared Achievement Level continued on top of next page
“Model” Level of Achievement for High Schools:

- To achieve “Model” Level of Achievement: six of the eleven Attributes must be at the “Model” Level of Achievement; the remaining five of the eleven Attributes must be at the “Model” or “Prepared” Level
- No Attributes and no Key Elements can be at the Developing Level of Achievement
- Attributes with 4 Key Elements:
  - Only 1 Key Element may be “Prepared” for the Attribute to be considered “Model”
- Attributes with 3 or less Key Elements:
  - No Key Elements may be at the “Prepared” level for the Attribute to be considered a “Model” Level of Achievement

Model Level of Achievement for Schools
Review Process

Completed applications will be reviewed by a team of reviewers. Reviewers represent educators and business and industry partners from K-12 schools, Local Education Agencies, state agency consultants and coordinators, Community Colleges, Colleges and Universities, and STEM-related specialists.

1. Each application will be reviewed to assure it is complete and submitted according to the directions
2. Each self-assessing application at the “Prepared” or “Model” level of Achievement will be evaluated by a team of reviewers
3. Applications will be reviewed for consensus
4. Schools assessing at the “Prepared” or “Model” level of achievement will be recommended to receive a site visit

School Visit

Schools receiving an assessment level of “Prepared” or “Model” will receive a visit from the review team. Site visits will align to a typical school day schedule. Expectations and agenda format include:

- Feedback will be provided from review team members prior to site visit with a set of questions to be addressed. Schools are to provide additional tangible evidence if requested.
- On-site agenda to include, but not limited to, classroom visits, STEM problem/project-based work displays, and student focus groups, community/business/parent/teacher convenings. Highlight one STEM Best Practice and demonstrate the distinguished strategies of your schools high quality STEM programming
- Concluding the visit: schools leadership will be debriefed which will include summary observations of evidences of successes and opportunities for improvement
- Note: Schools receiving a site visit does not constitute they will receive honor as a STEM School of Distinction. Final recommendations will be determined concluding the site visit.

Recommendation and School Notification

Review team will reconvene following the site visit for consensus to determine final recommendations.

- Schools distinguished at the “prepared” or “model” level of achievements will be recommended to be presented before the State Superintendent and the North Carolina State Board of Education for STEM Recognition
- Notification: schools will be notified of their achievement in May 2019
State Board of Education

*Distinguished schools will be honored at a North Carolina State Board of Education meeting.*

**Application Renewal**

*Schools and Programs receiving the STEM designation of “Prepared” or “Model” Level of Achievement; possess their status for three years. After three years schools are to reapply for STEM Recognition and consideration to maintain or advance their status.*

<table>
<thead>
<tr>
<th>Applied for STEM Recognition during school year</th>
<th>Received Status as a STEM School of Distinction</th>
<th>Application Renewal to maintain or advance status will be during school year</th>
<th>Application Release</th>
<th>Application Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>November 2014</td>
<td>2018-19</td>
<td>September 2018</td>
<td>February 1, 2019</td>
</tr>
<tr>
<td>2014-15</td>
<td>November 2015</td>
<td>2018-19</td>
<td>September 2018</td>
<td>February 1, 2019</td>
</tr>
<tr>
<td>2016-17</td>
<td>June 2017</td>
<td>2020-2021</td>
<td>September 2020</td>
<td>February 1, 2021</td>
</tr>
<tr>
<td>2017-18</td>
<td>June 2018</td>
<td>2021-2022</td>
<td>September 2021</td>
<td>February 1, 2022</td>
</tr>
<tr>
<td>2018-19</td>
<td>June 2019</td>
<td>2022-2023</td>
<td>September 2022</td>
<td>February 1, 2023</td>
</tr>
<tr>
<td>2019-2020</td>
<td>June 2020</td>
<td>2023-2024</td>
<td>September 2023</td>
<td>February 1, 2024</td>
</tr>
</tbody>
</table>

**Time line examples:**

- Schools having received recognition in November 2015 for the 2014-15 school year are to reapply during the 2018-19 school year. Application release: September 2018; Application due: Friday, February 1, 2019.

Schools or Programs may reapply annually to improve and advance their current status when:

1. Elementary, Middle, or High Schools or Programs at the “Prepared” Level of Achievement status are pursuing to elevate their status to the “Model” Level of Achievement designation.
2. High Schools or Programs at the “Model” Level of Achievement status are pursuing to advance their status to the Future-Ready High School/Program of Achievement.
3. Future-Ready High School/Program of Achievement at the “Prepared” Level of Achievement status is pursuing to elevate their status to the STEM “Model” Level of Achievement designation.

Schools reapplying to advance their current status are to address the feedback provided by the reviewers.
Reapplying Requirements

*Schools reapplying to advance their status submit an application that describes the school's STEM Best Practice. Include the following:*

- Elaborating on previous strategies and projects
- Building upon current project work and STEM program
- Specifying planned visions of the STEM program moving forward
- Indicating project's accomplishments
- Validating objectives and outcomes (for example: include evidence of measured instruction, student learning and/or growth, data projections, growth expectations, etc.)
- Demonstrating the persistence of STEM activities and processes
- Providing three artifact evidences

Guidance to Schools

*Information below was gleaned from recognized STEM Schools of Distinction, reviewers, and schools piloting the NC STEM Recognition Application Process. The goal of this application is to illustrate the strategies and qualities that demonstrates your school or program is a high quality STEM school or program.*

**NC STEM Recognition Process**

*Start planning at minimum a year in advance*

- Plan to:
  - Attend scheduled webinars for additional application guidance and process support
  - Incorporate plans for improvement in school improvement plan
  - Involve business partners, community partners, and postsecondary partners early for input and collaborative involvement
  - Incorporate professional development early in the process: document attendees, dates, notes, action items, outcomes, etc.
  - Build in whole-staff, grade-level, and cross-curricular team discussions and collaborations
  - Encourage feeder schools to participate in the STEM Initiative
  - Share your schools progress, accomplishments, and successes with your partners throughout the application process
  - Connect with distinguished schools
  - Create and dedicate a webpage to collect and document outstanding supporting evidences

- Illustrate strategies that:
  - Include data or number examples (e.g. How many individuals? For how long? How frequently?)
  - Provide descriptive examples and links such as; but not limited to: unit/lesson plans, class samples, articles, photos, student/teacher reflections, or videos. (Video clips do not have to be polished, but rather examples that capture and best illustrate and align to the Attribute/Key Element you are demonstrating
  - Tag examples by defining characteristics of your school (e.g. urban, small or large, rural)
  - Share the story on “how” the strategies implemented within your program impact teaching, learning, and your community; include outcomes - what has changed as a result
  - Evidence of intentionality—evidence of a schools plan is extremely important to capture
• Application:
  • Plan 60-80 hours for completing/transposing narrative documentation and artifacts into the application
  • Create a team to divide the work of the application
  • Identify each Key Element of each Attribute separately
  • Develop one best practice - identify and describe only one best practice as part of the application
  • Select supporting evidences that best exemplifies and distinguishes your school
  • Use student results and outcomes in responses
  • Include multiple people in the process for peer review and spellcheck
  • Seek partners signature endorsements at least a month in advance of the application due date (Applications are incomplete without the signed PDF signature endorsement page attached with the application. Partial signatures also render the application incomplete.)

Benefits of NC STEM Recognition

Benefits of a STEM School, Program, or Future-Ready STEM High School/Program of Achievement are listed below.

1. Prepare students to be career and college ready in STEM fields
2. Enable district, school, and teacher leadership that align with attributes of the Educator Effectiveness Model
3. Ensure effective communication of STEM Education among STEM programs in public schools, business/industry, community colleges, colleges/universities, and community members in the Economic Development Regions
4. Recognize the needs in the community in the public schools
5. Participate as part of the NC STEM Learning Network/NCSTEM Center portal
   a. Access best practices - projects, practices, research technologies
   b. Convene virtual communities - on-line groups and professional development
   c. Collaborate with STEM partners - businesses, organizations, other states
6. Connect with STEMx, a nineteen states membership to leverage development resources to develop STEM initiatives of value to the partnership.