Tennessee STEM School Designation Application

Tennessee STEM School Designation Process	
Mission To promote rigorous STEM-related learning opportunities for all students that lead to postsecondary achievement and high quality careers.	**Vision** To advance Tennessee as the leading state in STEM education, developing a workforce able to compete and succeed in the current and emerging global economy.

Purpose:

STEM education is a unique approach to teaching and learning that fosters creativity and innovative thinking in all students. STEM is focused on building critical and creative thinking and analysis skills by addressing how students view and experience the world around them. Strong STEM teaching and learning opportunities rest on inquiry-, technology-, and project-based learning activities and lessons that are tied to the real world. STEM education is a diverse, interdisciplinary curriculum in which activities in one class complement those in other classes. In the STEM classroom, robust partnerships reach beyond the walls of the school to include higher education and business partners in real-world lessons. STEM education is one of the most effective tools we possess to prepare Tennessee students for tomorrow's workforce and success in college and career.

The Tennessee STEM School Designation was developed to provide a "roadmap" for schools to successfully implement a STEM education plan at the local level. The tools and resources created define the attributes necessary for a school to create a comprehensive STEM learning environment for its students. A school that receives Tennessee STEM School Designation will be recognized by the Tennessee Department of Education for its use of STEM teaching and learning strategies and serve as a model from which other schools may visit and learn. Designated schools will also be invited to share promising practices at the annual Tennessee STEM Innovation Summit and become a member of Tennessee STEM Innovation Network's group of schools. All K–12 schools serving students in Tennessee are eligible.

Application Process:

Step 1:   The school should perform a self-evaluation using the STEM School Self-Evaluation Rubric (located within this document) and submit the completed self-evaluation to the Tennessee STEM Designation Review Team.

Step 2:   A representative from the Tennessee STEM Designation Review Team will contact you to schedule an initial conversation (i.e., phone call, Skype, or in-person visit).

Step 3:   The school will make adjustments based on recommendations provided by the representative prior to completing the full application.

Step 4:   The school will complete the full application and submit to the Tennessee STEM Designation Review Team representative.

Step 5:   Site visit to the school from the Tennessee STEM Designation Review Team.

Step 6:   Upon completion of the site visit, the Tennessee STEM Designation Review Team will review your application and compare it with the evidence and supporting documentation from the site visit.

Step 7:   Notification of Tennessee STEM Designation Review Team's decision.

Redesignation:
All designated STEM schools will be expected to reapply for status every five (5) years.

Application for STEM School Designation

School Name:
Address:
City and Zip:
School District:
STEM Contact:
Phone # and Email:
Total Student Enrollment:
Total Student Enrollment in STEM:

Introduction:
Describe the characteristics of your STEM school differentiating it from traditional schools (500 words max). In addition, provide letters of support for application from the principal, superintendent, and business partner.

Infrastructure

Attribute 1.1 STEM Action and Sustainability Plan
Provide a written document demonstrating your plan of action for implementing and sustaining STEM education within your school.

Attribute 1.2 STEM Leadership Team

Name	Email	Role

Attribute 1.3 STEM Leadership Team Professional Development
List all the professional development sessions the leadership team has attended that addressed STEM education issues and how to assist the implementation of STEM education within the school.

Professional Development Session	Describe Best Practices of STEM Education	Date and Length of PD	Faculty Members in Attendance

Attribute 1.4 School Environment

How are your classrooms and the school set up to facilitate student collaboration, exploration, and project-based work? (200 words max)

Attribute 1.5 School Schedule

Provide a copy of your school schedule that demonstrates collaboration time for teachers to plan within the school day, as well as collaboration time for students to work on project work.

Curriculum and Instruction

Attribute 2.1 Project-based Learning
Describe the STEM projects your students participate in.

STEM Project	Description	Grade Level/Number of Students Completing Project

Attribute 2.2 Engineering Design Process and Design Thinking Process
How do teachers integrate engineering design/design thinking within their instruction? (300 words max)

Attribute 2.3 Quality of Technology Integration
Describe how technology is integrated within lessons. (300 words max)

Attribute 2.4 Exploring STEM Careers

Describe the learning experiences that provide students information about STEM careers. (200 words max)

Attribute 2.5 College and Career Readiness Skills

Describe integration and implementation of 21st Century Skills in instruction and student opportunities. (200 words max)

Attribute 2.6 Integrity of the Academic Content (Including Cognitively Demanding Work)

Describe how the STEM learning experiences provided by your school has integrated the curriculum to align to state standards and STEM initiatives and provides cognitively challenging work. (300 words max)

Attribute 2.7 Enrichment Learning Activities

List and describe extended learning opportunities embedded within or outside of the school day in which students participate.

Program	Description	Grade level/Number of Students Participating

Professional Development

Attribute 3.1 Quality STEM Professional Learning
List all the professional development opportunities and explain how the learning aligns with the STEM initiatives described in the school's STEM Action Plan.

Professional Development	Description of Alignment	Dates and Length of PD	Faculty Members in Attendance

Attribute 3.2 Designing PBLs
Describe how the PBL learning activities designed by your faculty embeds state standards and 21st Century Skills, integrates content areas, and is designed to best meet the needs of your student population. Attach an exemplar STEM curricular module within in the appendices. (350 words max)

Achievement

Attribute 4.1 Performance Assessments
Describe the metrics you use to evaluate the effectiveness of your STEM program. (250 words max)

Attribute 4.2 Accountability (Data)
Outside of state standardized assessments, what else does your school use to assess students? How do these assessments drive instruction? (300 words max)

Community and Postsecondary Partnerships

Attribute 5.1 Partners Support Instruction
List community, business, and industry partners and their roles. Provide letters of support from three partners describing how they have guided STEM programming.

Partner Organization	Contact	Role

Attribute 5.2 Work-based Learning
List student involvement in work-based learning experiences such as internships, mentorships, work-study, apprenticeships, job shadow, career fair, service-based learning, etc.

Work Based Learning	Description/Location	Grade Level/Number of Students

***High School ONLY**

Attribute 5.3 Postsecondary Opportunities
List college courses or career training credit opportunities provided by your school.

Name of Course or Training	Description	Grade Level/Number of Students

Online Courses
List online courses that prepare students for college and career training. (These courses do not have to provide college or career credit.)

Name of Course	Description	Grade Level/Number of Students

Self-assessment Rubric:

The rubric in the STEM Designation Process Introduction provides an outline for the implementation of STEM attributes in schools. STEM attributes describe a quality STEM education demonstrated within a school. For each attribute, there are criteria to describe an Early, Developing, Accomplished, or On Target school.

STEM Attributes Implementation Rubric Self-assessment

Infrastructure: A Tennessee Designated STEM school requires a developed STEM strategic plan and a leadership team who collaborates frequently about the program's design and effectiveness. Teachers are highly collaborative and community members are included in decision-making. Each of the following attributes promotes an infrastructure that is conducive to sustaining a well-rounded STEM program.				
Tennessee STEM Attributes	**Early (1 pt)**	**Developing (2 pts)**	**On Target (3 pts)**	**Accomplished (4 pts)**
1.1 STEM Action and Sustainability Plan				
1.2 Leadership Team				
1.3 Leadership Professional Development Regarding STEM Issues				
1.4 School Environment				
1.5 School Schedules				
Curriculum and Instruction: The STEM curriculum framework contains the Tennessee State Standards and has articulated interconnectedness between science, technology, engineering, mathematics, and other content areas. Project and problem based learning activities form a substantial part of the curriculum. Each of the following attributes strengthens a curriculum framework that is conducive to sustaining a well-rounded STEM program.				
Tennessee STEM Attributes	**Early (1 pt)**	**Developing (2 pts)**	**On Target (3 pts)**	**Accomplished (4 pts)**
2.1 Project-based learning with integrated content across subjects				
2.2 Engineering Design Process and Design Thinking Process				
2.3 Quality of Technology Integration				
2.4 Exploring STEM Careers				
2.5 College and Career Readiness				
2.6 Integrity of the Academic Content				
2.7 Enrichment Learning STEM Activities				

Professional Development: A Tennessee Designated STEM School ensures a systemic professional development model that provides continuous learning based on student results, teacher development, and the short- and long-term goals of the school. The PD model, including school-level and personalized plans, creates an environment that allows educators to continue to learn and pursue opportunities that build the capacity to provide better STEM learning opportunities for students. Each of the following attributes creates an environment of continued learning for all that is conducive to sustaining a well-rounded STEM program.

Tennessee STEM Attributes	Early (1 pt)	Developing (2 pts)	On Target (3 pts)	Accomplished (4 pts)
3.1 Quality STEM Professional Learning				
3.2 Designing PBLs				

Achievement: Assessments are incorporated to measure student outcomes and teacher instruction to ensure a strong, innovative, and cohesive STEM program. Each of the following attributes uses innovative assessment to sustain a well-rounded STEM program.

Tennessee STEM Attributes	Early (1 pt)	Developing (2 pts)	On Target (3 pts)	Accomplished (4 pts)
4.1 Performance Assessments				
4.2 Accountability (Data)				

Community and Postsecondary Partnerships: Community and postsecondary STEM partnerships are established and provide connections between curriculum taught in the classroom and practical applications outside of school. These partnerships have created an environment in which students develop high-level STEM skills and knowledge inside and outside of the classroom and increase their readiness for college and careers. These attributes are essential in creating connections between what is taught and real-world settings in order to sustain a well-rounded STEM program.

Tennessee STEM Attributes	Early (1 pt)	Developing (2 pts)	On Target (3 pts)	Accomplished (4 pts)
5.1 Partners Support Academic Instruction				
5.2 Work-based Learning				
5.3 Postsecondary Opportunities *HS ONLY				

The Tennessee Department of Education will only certify 'Accomplished' Implementation STEM Schools. 'Accomplished' implemented STEM Schools must demonstrate implementation of at least 90 percent of the STEM attributes in order to obtain STEM Designation. Schools will not receive designation if they receive a 1 or 2 in any of the attributes.

Elementary or Middle School		High School	
65-72 points	'Accomplished'	69-76 points	'Accomplished'
56-65 points	'On Target'	60-68 points	'On Target'
47-55 points	'Developing'	53-59 points	'Developing'
< 46 points	'Early'	<52 points	'Early'