



Application for T-STEM Designation - New/Provisional

2016-2017

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Texas Education Agency
Application for T-STEM Designation
Statutory Authority: Texas Education Code §39.235

Overview of Designation

In order to operate as a Texas Education Agency (TEA)-approved Texas - Science, Technology, Engineering, and Math (T-STEM) Academy, a district must seek and receive T-STEM designation from TEA. In order to receive the T-STEM designation, a school must exhibit key traits from the T-STEM Academy Design Blueprint included in this application. The intent of this designation is to ensure that districts operating T-STEM Academies: integrate all the key characteristics of well-researched and well-designed STEM education while serving students who may not have otherwise considered the fields of science, technology, engineering, and math.

Benefits of Designation

Recognition as an Approved T-STEM Academy:

Schools designated by TEA as state-approved T-STEM Academies will receive various forms of media recognition including, but not limited to: identification on TEA's website as a state-approved T-STEM Academy and recognition in press releases.

Participation in T-STEM Convenings:

Special events hosted by TEA for T-STEM Academy administrators and principals to provide input on policies and procedures that impact T-STEM Academies.

Membership in the T-STEM Network:

Frequently opportunities are provided for principals, teachers, and students in designated T-STEM Academies through the T-STEM network to share best practices through conferences and technical assistance sessions. Membership in the T-STEM Network allows T-STEM Academies to access online exemplars, professional development, and webinars.

Access to Professional Development and Technical Assistance:

Designated T-STEM academies will have access to high-quality technical assistance which includes advice and information from a Leadership Coach who has successfully facilitated the design and implementation of the majority of T-STEM Academies operating in Texas.

Strength of T-STEM Model:

- Through the designation process, TEA will recognize those T-STEM Academies that effectively incorporate T-STEM Design Blueprint elements. The designation process will enable districts and their partners to engage in the research and planning necessary to ensure that their T-STEM Academies are set up in the most effective way possible.
- The T-STEM Blueprint provides a framework for T-STEM Academies to access college and career opportunities that support post secondary success.

Questions about Completing the Application

Who can fill out a T-STEM Academy designation application?

Any district or charter school campus may apply to be designated as a T-STEM Academy. Potential applicants are encouraged to carefully review the [T-STEM Design Blueprint](#) to determine readiness for implementation of the model.

Will have to fill out the same application each year?

No. New designation applicants and those T-STEM Academies that are provisionally designated will complete the comprehensive form. T-STEM Academies that are fully designated must complete the abbreviated T-STEM designation application yearly. The abbreviated renewal application will require a designated T-STEM Academy to provide updates regarding changes in the design and operation of the Academy. However, the primary focus of the annual renewal will be to gather evidence on the Academy's progress along the T-STEM Academy Design Blueprint continuum.

Will this application be required for T-STEM Academy grantees in the future?

Yes. In future funding cycles, completion of this application will be a program requirement for T-STEM Academy grant recipients.

Who can I contact for help filling out this application?

- **New applicants** may contact the T-STEM Program Manager at tstem@tea.state.tx.us.
- **2016-2017 designated T-STEM Academies** may contact their current T-STEM coach.

Application Information

General Information:

- A district or charter must submit a separate application with the required attachments on behalf of each proposed T-STEM Academy.
- The application must be submitted via the online system by **5:00pm, March 4th, 2016**
- A campus must be designated prior to the beginning of the school year in order to operate as a T-STEM Academy for that year. T-STEM Academy approval is valid for a maximum of one year. T-STEM Academy designated must be applied for each year via the TEA T-STEM designation process.

Timeline & Process:

- March 4th, 2016: Applications are due to TEA in order to open a campus as a designated T-STEM Academy during the 2016-2017 school year.
- June 2016: Districts submitting applications by March 4th, 2016 will be notified of the selection or non-selection of the campus as a designated T-STEM Academy on or about June 2016. Applications submitted prior to the March 4th, 2016 deadline may be approved prior to June 2016.
- The district will receive a notification letter of selection or non-selection for each campus it proposes to operate as a T-STEM Academy.

Required Attachments:

- **Official signature:** Official signature of a district or charter official authorized by the local board to bind the applicant organization in a legally binding contractual agreement.

Required Supporting Documents:

- The Academy must have current versions of the following documents on file.
- Each applicant is required to provide an assurance that each of the supporting documents is current for the 2016-2017 school year, signed by all parties, and provides detailed information regarding the specific assurance.
 - **Dual Credit MOU**
 - **Professional Development Plan**
 - **Business/Industry Agreement**
 - **2016-2017 Master Schedule**

Questions:

T-STEM Program Manager
tstem@tea.state.tx.us

Required T-STEM Academy Design Program Elements

The following design elements are the minimum required components that must be demonstrated through this application in order to be designated as a T-STEM Academy:

- The T-STEM Academy must serve grades 9 through 12 and may serve grades 6, 7, and 8.
- A campus must be designated prior to the beginning of the school year in order to operate as a T-STEM Academy for that year. T-STEM Academy approval is valid for a maximum of one year. T-STEM Academy designated must be applied for each year via the TEA T-STEM designation process.

I. Mission Driven Leadership:

- The Academy's mission statement and planned advisory board must reflect the mission and vision of the T-STEM Initiative.
- The Academy must use program review and formative evaluation to achieve its mission and goals.
- The Academy must promote leadership development and collaboration within the Academy and T-STEM Network.
- For Academies that include 6th, 7th, and 8th grades, leadership teams from the middle school and high school must collaborate on a regular basis.

II. Academy Culture and Design:

- The T-STEM culture must foster positive student identities through meaningful adult and peer relationships.
- All students graduating from the Academy must be prepared for postsecondary coursework and careers in the STEM fields through the integration of the Governor's economic workforce clusters and AchieveTexas STEM cluster into the curriculum.
- The Academy must support all students to graduate high school with four years of math, four years of science, four years of STEM electives, an Endorsement (with a primary focus on STEM endorsements), and a Performance Acknowledgement for a Distinguished Level of Achievement.

III. Student Access, Success, and Persistence:

- The Academy must have a clear plan for student support and success to achieve persistence rates above 70%.
- The Academy must instill the expectation that students expand their participation and leadership in STEM activities outside the classroom and provide the opportunity to do so.

IV. Teacher Selection, Development, and Retention:

- The Academy faculty must possess extensive subject knowledge and integrate project based learning (PBL) and STEM pedagogy into the classroom.
- The Academy must adopt and implement a plan for sustained professional development.

Required T-STEM Academy Design Program Elements cont.

V. Curriculum.Instruction.and Assessment:

- The Academy must align curriculum, instruction, and assessment to provide students with rigorous STEM focused instruction.
- The Academy must deliver Innovative STEM programs that are well-defined, embed critical thinking and problem solving, foster innovation and invention, and are aligned to state and/or national standards, and industry expectations.
- The Academy must integrate science, technology, engineering, and mathematics throughout the curriculum.
- The Academy must continually monitor student progress through assessments and data collection.
- The Academy must promote STEM literacy and prepare students with 21st Century skills.
- The Academy must support three years of STEM electives at middle school and four years of STEM electives at high school.

VI .Strategic Alliances:

- The Academy must promote family involvement in student success.
- The Academy must integrate business partnerships into the curriculum and student learning experience.
- The Academy must partner with IHEs and college/career-preparation entities to ensure that students graduate with college credits and prepared for postsecondary success.

VII. Sustainability and Advancement:

- The Academy must have a plan for continuous improvement and growth.
- The Academy must adopt and implement a plan for sustained professional development.

Scoring of the Application

- Each applicant will be reviewed by T-STEM subject-matter experts from across the state.
- New applicants will be reviewed based on the proposed plan and a follow up with the applicant, if necessary.
- Each applicant will receive a notification letter from TEA indicating which designation category it has been assigned: Designated, Provisionally Designated, or Denied.
- The T-STEM Academy Design Blueprint has been consolidated in the application to highlight priorities for the planning period of designation. Applicants should focus on the benchmarks presented in answering the questions.

PART 1: CONTACTS

1.1 T-STEM Academy

T-STEM Academy Name	Energized for STEM - E-STEM Southeast (formerly Central)
County District Campus Number	101912321
Mailing Address - Line 1	9220 Jutland Road
Mailing Address - Line 2	
Mailing City	Houston
Mailing Zip Code	77033

1.2 School District

School District name	Houston Independent School District
Mailing Address - Line 1	4400 West 18th Street
Mailing Address - Line 2	
Mailing City	Houston
Mailing Zip Code	77092

1.3 Education Service Center Region	04
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1.4 Person Completing this Application

First Name	Argentina
Initial	
Last Name	James
Title	Institutional Advancement Director
Phone	(713) 773-3600
Email	ajames11@houstonisd.org

1.5 Academy Principal/Director

First Name	Shavon
Initial	
Last Name	Clark
Title	Principal
Phone	(713) 641-1630
Email	sclark7@houstonisd.org

1.6 Superintendent

First Name	Kenneth
Initial	
Last Name	Hewitt
Phone	(713) 556-6300
Email	HISDSuperintendent@houstonisd.org

1.7 T-STEM Academy Partner Information

IHE Partner	Texas Southern University
STEM Business Community Industry Partner	Schlumberger

1.8 Authorized School District or Charter Official

First Name	Lois
Initial	
Last Name	Bullock
Title	Founder/Head of Schools
Phone	(713) 773-3600
Email	lbullock@houstonisd.org
Signature	(Attached)

PART 2: BACKGROUND

2.0 Is your campus currently designated as an Early College High School (ECHS) through the TEA ECHS designation process?

No

2.1 First year of Academy Operation

2008

2.2 Years in Operation

5+

**2.3 Academy Model:
What is the design of the T-STEM Academy requesting designation?**

Stand-Alone Academy - Multiple Campuses: All students on each campus are enrolled in the T-STEM Academy; this model typically spans a middle school and high school

2.4 Target Population

Grades of students to be served	6th	7th	8th	9th	10th	11th	12th	Total Enrollment
2016-2017 projected enrollment	150	100	100	150	100	50	15	665
2015-2016 enrollment (if designated in the 2015-2016 school year)	64	65	35	60	24	11	7	266

PART 3: BENCHMARKS

T-STEM Blueprint Instructions

The T-STEM Academy Design Blueprint consists of seven benchmarks that drive the success of an Academy. Each benchmark highlights program requirements and offers a rubric score of developing, implementing, mature, or role model. T-STEM Academies use this tool to measure growth and progress along the continuum.

All seven benchmarks are included in the application. However, applicants may notice the program requirements are not numbered sequentially. This is because not all program requirements are included in the Designation Application. Applicants are not expected to meet or even consider all program requirements at this stage in the process. Instead, those program requirements that form the building blocks of a successful designated Academy are included in the Designation Application. Focused consideration of those particular program requirements will mean a successful applicant will have a strong foundation as a designated T-STEM Academy. The technical assistance that comes as a result of designation will allow the designated Academy to implement the Blueprint Benchmarks' full program requirements over time.

Benchmarks 1-4, 6 & 7

Applicants should first review the program requirements for each benchmark presented in the body of the application. The questions that follow pertain to those specific requirements (i.e. Benchmark 1 questions pertain to Benchmark 1 program requirements). Applicant responses should reflect a close consideration of the highlighted rubric areas in the context of what the campus has in place currently and could feasibly implement during the first designated year. Applications will be scored on the response's evident understanding of the continuum of growth along the rubric, evidence of existing programs, and feasible plan to move forward for each requirement.

Benchmark 5: Curriculum, Instruction, and Assessment

Applicants should review the program requirements presented in each section and rate the campus's existing system in the rubric's check boxes. Applicants are then asked to justify the ratings with evidence, reflection, and a plan to move forward, bearing in mind that with designation comes the tools and assistance necessary to progress along the continuum. Successful applicants will reflect an understanding of Benchmark 5 and are not necessarily expected to have all elements in place before designation.

Benchmark 1: Mission-Driven Leadership

Program Requirements

1.2.C.	Develops and demonstrates support from an advisory board (AB) consisting of representatives from the Academy, school board, district, community, higher education, and STEM businesses to support and guide facility requirements, resource acquisition, curriculum development, internship, externships, and student/community outreach to ensure a successful 6-20 STEM academic and career pipeline.
1.3.A.	Integrates and assesses the level of mission-driven and data-driven decision making evident in the daily work of the Academy.
1.4.A.	For 6-12 campuses, middle school and high school leadership teams regularly collaborate to advance 6-12 alignment and student retention in STEM.

Key Elements for Success

- Job descriptions and roles for design team, leadership team, and advisory board
- Mission is posted and can be articulated by teachers, staff, students, key stakeholders, etc.
- MOUs with T-STEM Centers

	Developing	Implementing	Mature	Role Model
1.2.C.	Advisory Board (AB) established.	AB positions and subcommittees are identified.	AB develops innovative and creative approaches to support Academy mission and vision.	AB addresses major shifts in STEM, educational standards, industry expectations, and analyzes SWOT of Academy, resulting in measurable action items.
1.3.A.	Little or no evidence of data-driven and mission-driven decision making.	Data is used to design student interventions, Annual Action Plan (AAP), and to inform teaching and learning aligned to the mission.	Teachers work interdependently as teams to review data across content areas, develop targeted interventions, and develop common formative assessments.	The Academy's continual analysis of results for improvement is critical to the school's system of interventions and culture of celebration.
1.4.A.	Academy leadership occasionally collaborates with each other (6th - 12th), with T-STEM centers, and T-STEM Coaches.	Academy leaders and staff collaborate with each other (6th - 12th), and with T-STEM Centers and Coaches to integrate STEM teacher preparation, teaching, and learning. <i>And meets criteria from Developing</i>	Academy plans with regional T-STEM Center, vertical alignment teams 6th - 12th (at least quarterly), and meets with their T-STEM Coach, virtually or Face-to-Face (at least monthly). <i>And meets criteria from Developing and Implementing</i>	Academy dialogues on a regular, ongoing basis in vertical alignment teams (6th - 12th), with T-STEM Centers and Coaches, and utilizes available T-STEM resources to improve student achievement and teacher preparation. <i>And meets criteria from Developing, Implementing, and Mature</i>

Benchmark 1: Mission-Driven Leadership

- Program Requirement 1.3.A. addresses the use of data to drive design, decision making, and program review in a T-STEM Academy.
- Designated campuses will be expected to meet or exceed "Implementing" on the rubric above (Data is used to design student interventions, Annual Action Plan, and to inform teaching and learning aligned to the mission) by the end of the first designated year.

Describe below how the campus will meet or exceed this expectation.

The Energized for STEM Southeast Campus (formerly Central) continues to work toward functioning as a role model campus. To ensure that teachers, staff, students, and key stakeholders hold the school's mission at the forefront of all operations, we review and discuss the mission at every available opportunity. In Advisory sessions, where students and teachers interact regarding students' progress and resolve concerns, the discussions begin with an iteration of the mission so that the interactions can reflect the school's mission.

Staff meeting agendas incorporate the mission as a reminder of who we are, why we exist, and to instill the long-term vision of what the final product of our course of actions should produce.

Teachers and administrators have participated in ongoing staff development activities that clarify the mission of the school as well as the mission of all T-STEM academies.

The Decision-Making Body (Advisory Board) commits to the mission through Memoranda of Understanding, and letters of support and commitment. Our current Advisory Board is comprised of six partners/supporters that have exhibited their commitment to the mission through regular attendance and active participation in the decision-making process, and have been instrumental in supporting those activities and events that have made the program relevant to the STEM focus with a vision toward higher education and the problems of the real world.

Advisory Board agendas include review of benchmark data, formal testing data as well as anecdotal reflections from students, teacher and parents in making decision regarding the operation of the program. Members of the school's Advisory Board regularly conduct Onsite audits of the school's operations. Their findings have identified areas where improvements are needed as well as areas of great success. In addition to the Advisory Board, the Academy is accountable to Houston ISD assigned Administrators who also serve as a support system to ensure that the Academy meets or exceeds state and federal accountability measures.

The Professional Learning Communities (PLC), where teachers collaborate on instructional concerns, have identified students that need support and timely interventions for struggling students, and provided the time necessary for teachers to modify existing units of Instruction and to create unique Instructional strategies that help students master the more rigorous content. The T-STEM Coach brings additional ideas to the PLC's for their consideration and inclusion in teaching units.

The collaboration with the T-STEM Centers keeps staff abreast of research-based "best practices" and provides students with additional time during the summer to accelerate their achievement in advanced academic content.

- Program Requirement 1.2.C. details the requirements for an Academy's advisory board (AB).

List the planned AB members and their job title (example: John Smith, School Board Member; Jan Smith, STEM Business Leader, etc.). Detail how this board will support the Academy work.

The current Advisory Board (AB) consist of five (5) partners/supporters that have exhibited their commitment to mission through regular attendance and active participation in the decision-making process, and have been instrumental in supporting those activities and events that have made the program relevant to the STEM focus with a vision toward higher education and the problems of the real world. They assist with providing financial and human capital to assist the Academy with meeting the fidelity of the program.

Advisory Board Members are:

- Ms. Paula Harris, Schlumberger and Former HISD Board Trustee
- Dr. Bobby Wilson, Texas Southern University
- Dr. Freddie Frazier, PrairieView A&M University
- Ms. Rhonda Arnold, Houston Airport System
- Dr. Opal Gardner, Energized for STEM Board

Advisory Board agendas include review of benchmark date, formal testing data as well as anecdotal reflections from students, teacher and parents in making decisions regarding the operation of the Academy. We continue to have on-site audits of the schools operations by members of the school Advisory Board. These visits have identified areas where improvements are needed as well as areas of great success.

Program Requirement 1.1.A: Provide the Academy mission statement below.

E-STEM Academy, Incorporated Southeast Campus opened in the Fall of 2008 with the goal of aligning 6-12 grade pipeline, college, and business-based activities across STEM areas (Science, Technology, Engineering, and Math) within the broader school curriculum STEM-ulated by the Arts.

MISSION

The mission of Energized For STEM Academy, Inc. is to provide a school culture that prepares students for academic success in their future education, and prepares them to become responsible and productive citizens. Students are immersed in a learning environment that encourages them to identify, create and solve problems while meeting the rigorous academic demands of such disciplines as science, technology, engineering and mathematics. In addition to the rigorous STEM-emphasized college preparatory education, E-STEM Academy students receive curricular and extracurricular activities in the visual and performing arts.

- Program Requirement 1.4.A details the requirements for 6th-12th campuses to collaborate on a regular basis to advance 6th-12th alignment and student retention in STEM.

Describe below how the campus will meet or exceed this expectation. If Academy is 9th-12th write, "Not Applicable".

The vision and collaboration of the 6-12 grade alignment and retention efforts are a priority as campus administrators and teachers continually: identify, document, review and implement best practices. The middle and high school staff also works together in providing college readiness activities. Activities include, but are not limited to; College Fairs, Industry and Career Exploration and Summer Bridge Programs.

Middle school students are prepared to enter the rigor of the high school curriculum by taking advanced courses in middle school. Algebra I and Geometry are offered in the 8th grade. Eight graders are also offered Pre-AP courses. This prepares the middle school student for the advanced studies in high school: AP courses and dual credit classes.

Middle and high school teachers take part in joint staff development opportunities. Joint meetings and staff professional development opportunities allows for collaborative channels of communication. The Academy focuses its students on college readiness and continuously reinforces the STEM culture. The current structure provides time for teachers to work in small groups and to address academic and personal needs such as student goal setting, organizational skills, and academic coaching and mentoring.

Texas Science, Technology Engineering and Mathematics

Benchmark 2: T-STEM Academy Culture and Design

Program Requirement: 2.1 Personalization

- 2.1.A** Addresses in AAP and strategic plan the details for remaining small, allowing for personalization and maintaining collaborative learning communities of students.
- 2.1.B** Plans and implements a non-graded student advisory program that is regularly scheduled, noted in the master calendar/schedule, and focuses on personalizing the student experience, (builds relationships with students and parents, develops character, and fosters global literacy).
- 2.1.C** Develops a process for hearing and responding to student voice.

Key Elements for Success		Example Artifacts	
- Student IGPs w/ CCRS, Endorsements, and Performance Acknowledgement plans - Master schedule for advisory - Student enrollment		- Opportunities for orientation sharing and team building activities both on- and off-site - Advisory class curriculum - Student goal setting and reflection logs - Teacher mentors assigned to students - Pre- and post-assessments of advisory class goal - Students sit on advisory board and/or have voice in student work products, clubs, competitions, governance, and course offerings - School wide activities to build/share culture - Student ambassadors serving as classroom greeters and/or guide tour groups - Teacher/student ratios, actual class sizes - Surveys documenting students' elective requests	
Developing	Implementing	Mature	Role Model
1. District and Academy resources are allocated to ensure teaching staff and facilities remain small. 2. Student advisory is regularly scheduled and focuses on relationships, building school capital, developing and fostering global literacy.	1. Annual Action Plan and Academy handbook address plan for maintaining personalized, small, learning communities. 2. Advisory class has written curriculum with goals, expectations, scope, sequence, and pacing guides. <i>And meets criteria from Developing</i>	1. Students are regularly afforded multiple opportunities to build relationships with staff and peers such as working in academic and/or competitive teams horizontally and vertically. 2. Teachers work in teams to develop systemic advisory programs with horizontally and vertically aligned student outcomes. <i>And meets criteria from Developing and Implementing</i>	1. Protocols are developed to ensure students have a clear and documented voice in the Academy (student council, advisory committee to the director, suggestion box, etc). 2. Annual resources are allocated to develop, revise, and sustain advisory program with input from students, teachers, parents, and external partners. <i>And meets criteria from Developing, Implementing, and Mature</i>

Texas Science, Technology Engineering and Mathematics

Benchmark 2: T-STEM Academy Culture and Design

Program Requirement: 2.1 Personalization

- 2.1.D** Arranges for a flexible school day with blocks of time that support student learning (tutorials, collaboration, meetings).
2.1.E Celebrates high quality student work through student exhibits on-site, web-based, and/or in state and national forums.
2.1.F Provides every 6th – 12th student with an individualized STEM-focused high school graduation plan that addresses: four years of math and science; an Endorsement in STEM, Business and Industry, Public Service, or Arts and Humanities; identifies target areas for Performance Acknowledgements; and is at least annually reviewed and revised with the counselor, student, and family.

Example Artifacts

- | | |
|---|--|
| <ul style="list-style-type: none"> • Honor roll, grade level/school-wide celebrations • Classroom and building displays • Number of students participating in student exhibits • Agendas/signatures for IGP meetings with students and family | <ul style="list-style-type: none"> • IGP, record folder/portfolio, 6th-16th course plan • Master schedule, tutoring schedule • Minutes/action items from site based committees, etc. • Website showcasing student work • Documentation of at least annual 6th – 12th IGP meetings with parents and students |
|---|--|

Developing	Implementing	Mature	Role Model
1. Academy develops a flexible schedule that supports student success.	1. Schedule is developed with input from teachers, counselors, content coaches, extracurricular and internship/capstone requirements.	1. Teachers work in teams to adjust daily schedule to facilitate interdisciplinary PBL.	1. Schedule is adjusted to meet student needs according to data, student, teacher, and parent voice; intervention and extension plans.
2. Academy regularly schedules for students to share their knowledge and work products.	2. Students participate in panel presentations, debates, academic fairs, webinars, online challenges, competitions, design challenges, etc.	2. Resources are allocated to provide students with opportunities to participate in state and national forums, conferences, and competitions (financial, facilities, staffing, transportation, etc.).	2. Academy establishes protocols with input from key stakeholders to gauge the effectiveness of student participation in competitions, challenges, etc. towards promoting college and career readiness as well as Academy goals.
3. Academy develops IGP for each 6 th – 12 th student that addresses STEM pathways, THECB College and Career Readiness Standards.	3. Student, counselor, and family regularly review and revise the IGP to address student goals for courses, grades, Endorsements, Performance Acknowledgements, college entrance exams, PSAT/ACT/SAT, career aspirations, etc.	3. Annually reviews and revises IGP according to previously established protocols and timelines.	3. Mentors are assigned to students to develop intervention contracts to address deficiencies or acceleration opportunities in IGP.
	<i>And meets criteria from Developing</i>	<i>And meets criteria from Developing and Implementing</i>	<i>And meets criteria from Developing, Implementing, and Mature</i>

Texas Science, Technology Engineering and Mathematics

Benchmark 2: T-STEM Academy Culture and Design

Program Requirement: 2.2 Culture

- 2.2.A** Collaborates with stakeholders to develop a new handbook or modify the existing handbook with clear procedures, policies, and consequences that support the development of a strong T-STEM culture.
- 2.2.B** Involves all stakeholders in developing a culture of respect, responsibility, trust, and meaningful adult and peer relationships throughout the Academy in order to foster positive student identities.
- 2.2.C** Creates a professional learning community environment of collaboration, teaming, and high expectations among administrators, teachers, and stakeholders, with a focus on and a commitment to the learning of each student.

Example Artifacts

- Handbook, attendance/discipline goals/data
- Customs and celebrations, modeling lessons for respect, responsibility, trust
- Student, teacher, parent surveys address culture
- Sharing of ideas and strategies and joint problem-solving are widespread.
- School developed common vocabulary for evidence of "good teaching"
- PLC protocols and expectations (meeting times, book studies, goals, results based on interventions, reflections on results – new actions, etc.)
- Collaborative planning of learning and teaching activities
- Widespread teamwork involving teachers and support staff
- Peer walkthroughs, lesson evaluations, and critical friends reflections

Developing	Implementing	Mature	Role Model
1. Handbook is developed to address student, parent expectations and a culture of respect, responsibility and trust. 2. Professional Learning Community (PLC) is developed which supports staff devoting effort, energy, time, and resources into incorporating valuable new strategies into their practice.	1. Handbook addresses key tenets of cultural beliefs of Academy (student ability and achievement, efficacy and effort, power, distributed leadership, cultural sensitivity, proactive and reflective practice, etc.). 2. An inquiry-based continuous improvement orientation to practice is pervasive, with data informing practice and learning widely shared. <i>And meets criteria from Developing</i>	1. Handbook is developed with input from key stakeholders with clear policies, procedures, and consequences (attendance, discipline, student contracts, teacher extended days, etc.). 2. Staff regularly and consistently plans together, collaborates and shares ideas through meetings, website resources, teaming, team teaching etc., and garners input from external experts. <i>And meets criteria from Developing and Implementing</i>	1. There is a high degree of commitment to school-wide professional values and a strong sense of cohesion and consistency of approach, with protocols to analyze, build, and assess effectiveness of culture. 2. A desire to do the best for <i>all</i> students pervades the school as evidenced by protocols for regular and deep school-wide dialogue about good teaching, assessment, learning, projects, and successes of individual students. <i>And meets criteria from Developing, Implementing, and Mature</i>

Benchmark 2: T-STEM Academy Culture and Design

- Applicants should consider the program requirements listed above as they pertain to a student's individualized learning experience.

Describe the campus's efforts to support students to reach this goal. This description should include plans for: an advisory period, a positive school culture, enhanced relationships with parents, and responding to student voice.

PLC's have coalesced into a unified and mission driven vehicle for staff to develop an advisory program that views data horizontally and vertically in terms of student achievement. Major challenges to achievement have been identified and interventions developed to meet specific student need. For example, students matriculating in the school with math deficiencies are assigned tutors or mentors from an array of skilled business partner staff.

E-STEM Academy provides evidence of a personalized learning environment that ensures all students receive individualized support toward development in their academic, career, and personal/social domains and in civic responsibility. Advisory is held every day and promotes a positive school culture by addressing the social and emotional needs of our students. It all happens through safe, engaging, guided peer-to-peer activities that build social emotional skills and connections among teachers and students. The advisor is responsible for providing support, which enhances a more caring school culture and builds a high-quality school community that enrich the lives of everyone involved, including the parents.

Through the implementation of more proficient and engaging communication strategies, parental support and knowledge continues to grow. We aim to connect families to classroom activities and data, school staff, and each other. Therefore, more effective communication to parents about standards, best practices, and grading has been implemented through more engaging and focus monthly family night. Parent nights are now more engaging and specifically directed at specific subject matter important to a particular grade level. Parents meet in grade-level teams to learn about curriculum, content standards, and classroom practices.

As a result, family nights now include specific strategies about how to help their children, including what to do at home to support their students academic growth.

The school will continue to conduct parent/student surveys to gather perceptions of the learning environment, values and beliefs from students. Data collected supports the improved student learning because it allows for engagement and input from all stakeholders. Students and parents understand that there is an open door policy that ensure access to teachers and administrators. In addition, they are encouraged to place concerns and ideas in the suggestion box located in the main office. The Academy responds promptly and positively to parents' phone calls, letters, and visits.

Applicants should consider the program requirements listed in the "Benchmark 2 Program Requirements" link above as they pertain to postsecondary college and career success.

- 6th-12th STEM-focused high school graduation plan: IGP with Endorsement, Performance Acknowledgement, and Distinguished Achievement.
- 6th-12th STEM career and college exploration, and college readiness preparation with students and parents to include college transition plan.
- Collaboration with IHE.
- All students should graduate with 12-30 hours college credit and be prepared for postsecondary coursework in STEM fields.

The E-STEM Southwest students have IGP's developed jointly by the Advisory teacher, student and parent. The IGP is reviewed on an annual basis for changes in student interests, achievement, and long-range plans for the future. The annual review has been one of our most successful strategies in helping parents to know that they have a voice in determining the future of their child.

Each E-STEM parent is provided with information detailing state academic content standards and assessments as well as the progress of the school and the level of achievement of in each of the state academic assessments. Report Cards and Interim reports are distributed to student families twelve times (4 report cards and 8 progress reports) during each school year. Teachers teachers also communicate student progress through phone calls and parent conferences. Each student in jeopardy of not mastering a course is given an intervention plan.

- Program requirement 2.2.C. highlights the importance of a strong Professional Learning Community for the success of all students.
- Review at the rubric continuum and tools in Example Artifacts from a successful Academy.

Describe how the campus will use these tools to progress into a "Mature" campus over time. "Staff regularly and consistently plans together, collaborates and shares ideas through meetings, website resources, teaming, team teaching, etc., and garners input from external experts." This description may include inquiry-based approaches, data informed decision making, Professional Learning Communities, collaboration, and integration of technology.

The T-STEM conferences and web site has been advantageous for staff to participate in professional development. The webinars offered by the T-STEM web site provides cost-effective and convenient times to participate in on-going learning activities. The web site also offers opportunities for staff to study successful program and learn about resources and strategies that would be beneficial to their environment and culture.

Through a continuing initiative with Schlumberger, the Schlumberger Log-In trains Academy teachers how to teach industrial computer design, robotics, and computer application designed to prepare students for the technology careers in 21st Century workforce. Academy students are taught by industry professionals during a semester-long on-campus afterschool training program in the campus computer lab.

Our success has come through many avenues:

- Dedicated time for staff to brainstorm, study, discuss best practices, review internal, and plan and develop units of study;
- Input from non-school related viewpoints of professionals and workers in the STEM fields in IHE'S, Stem-related business endeavors, and community-based organizations;
- Expanded opportunities for dual-credit offerings; and
- A STEM Coach with the overall vision of the T-STEM mission.

Peer coaching continues to be an integral facet of the plan for improvement. Teachers regularly observe in a peer teacher's classroom. Such observations not only give the observer new ideas and direction, it provides a means of obtaining feedback to the teaching being observed in a non-threatening environment.

Texas Science, Technology Engineering and Mathematics

Benchmark 3: Student Outreach, Recruitment, and Retention

Program Requirement: 3.1 Recruitment and 3.2 Open Access

- 3.1.A** Develops structures and processes for marketing and recruitment to encourage participation from underserved students and families (transportation or plans for transportation to the school, child care for family events, and translation of all recruitment and marketing materials).
- 3.1.B** Actively partners with feeder middle and/or elementary schools to develop student interest in STEM education and to increase advancement rates from middle school STEM to high school STEM.
- 3.1.C** Develops a systemic recruitment plan that includes students, parents, counselors, teachers, district, and community.
- 3.2.A** Develops an admission policy to include an open access, lottery-based selection process that encourages applications from all students. The application will not be based on state assessment scores, discipline history, teacher recommendation, minimum GPA, or other requirements that would be used to limit selection.
- 3.2.B** Consists of a population that is 50% or greater economically disadvantaged and underrepresented students.

Key Elements for Success		Example Artifacts	
Written admission policy and application with lottery explained		- Recruitment schedule and locations (schools, churches, community centers, etc.) - Brochures and marketing items in English, Spanish, and/or relevant second language - Survey data (community input, enrollment trends, etc.) - STEM feeder school crosswalk recruiting curriculum - Plan to recruit with feeder schools - Documented support efforts (transportation, child care, etc.) - Needs assessment - Number and percentage of students matriculating from middle school STEM to high school STEM	
Developing	Implementing	Mature	Role Model
1. Academy details a plan and process for marketing to and recruiting from appropriate communities and feeder schools to reach high need and underrepresented students. 2. Academy has at least 50% economically disadvantaged and underrepresented students, via an open, lottery based admission policy, where the application <i>does not</i> include requirements that might deter students such as STAAR, grades, teacher recommendation, discipline, or attendance.	1. Marketing and recruitment plan developed with input from key stakeholders, and targets feeder pattern, community needs, and cultural relevance. 2. Clearly communicated admission policy that indicates target enrollment goals and implements support processes structures such as transportation, child care, etc. to meet goals. <i>And meets criteria from Developing</i>	1. Marketing plan highlights Academy's STEM pathways and Endorsements; and industry and higher education partners. Recruitment efforts include Academy staff, students, and parents. At least 80% of 8th grade MS STEM students matriculate to HS STEM Academy. 2. Academy tracks enrollment data and indicates some increases in recruitment/enrollment rates. <i>And meets criteria from Developing and Implementing</i>	1. Students and staff from Academy collaborate with feeder schools to develop, deliver, and monitor recruitment results from STEM crosswalk engagement lessons conducted at the feeder middle schools. At least 90% of 8th grade MS STEM students matriculate to HS STEM Academy. 2. Academy employs a needs assessment to analyze demographic trends to ensure equitable access and recruitment of greater than 50% economically disadvantaged and underrepresented students and sustains a full complement of students at each grade level. <i>And meets criteria from Developing, Implementing, and Mature</i>

Texas Science, Technology Engineering and Mathematics

Benchmark 3: Student Outreach, Recruitment, and Retention

Program Requirement: 3.3 Student Support and Retention

- 3.3.A** Develops and implements systemic, tiered strategies for student support and retention (outreach, early intervention strategies, mentoring, tutoring, counseling, and other supports for academic and socio-emotional growth).
- 3.3.B** Hosts 5th – 6th and 8th – 9th orientation session(s) and summer bridge program(s) to facilitate successful student transitions and retention into a STEM-focused, college preparatory, project-based learning environment.
- 3.3.C** Provides all students with opportunities and the expectation to assume roles of responsibility within the classroom, Academy, and community.
- 3.3.D** Supports and monitors 6th – 12th student participation in STEM activities both within and outside the classroom to ensure that all students engage in STEM clubs, STEM competitions, and STEM field experiences.
- 3.3.E** Hosts parent seminars to develop deep understanding and commitment to the rigor of college readiness and the high expectations of a STEM Academy.

Example Artifacts

- Student, parent, staff contracts - Student retention and persistence plan - Orientation and bridge agendas - Exit interviews - IGPs Minutes from persistence meetings, retention/attrition data		- Program adjustments due to student and community voice - Copies of trainings and participation of parents/community - Satisfaction/interest surveys from students, parents, community, staff, etc. - Lists of clubs, service learning projects, STEM activities, STEM field experiences, and planned competitions	
Developing	Implementing	Mature	Role Model
1. Academy develops a strategic plan for student retention and persistence, and maintains persistence rates above 70%.	1. Student persistence rates range between 70-80% and the strategic plan addresses research-based supports such as annual IGP review, parental involvement, tiered interventions, and cultural relevance.	1. Student persistence rates range between 81-90%, and the strategic plan includes yearly metrics, analysis of why students leave, and a plan to identify and prevent at-risk students from leaving.	1. Campus engages in ongoing dialogue to address persistence data (lack of course credit, leaving the Academy) and uses data to ensure persistence rates above 90%.
2. Academy develops student orientation/summer bridge program(s), student clubs, and plans for external STEM activities and competitions.	2. The orientation/summer bridge program sets priorities and includes a timeline with skills, tools, and resources for students to successfully transition to a STEM environment.	2. The orientation/summer bridge program is implemented as planned and continually refined annually, with a complete scope and sequence and supporting materials.	2. The orientation/summer bridge program monitors initial student success, identifies struggling students early on, and ensures those students have additional support.
3. Students can select from a small number of leadership opportunities available.	3. The staff encourages students to select leadership opportunities.	3. The staff monitors student involvement in leadership and STEM activities, clubs, and competitions; and develops interventions for students who have minimally participated.	3. Student leadership is evidenced in nearly every non-classroom related initiative or event and at least 90% of students participate in leadership and/or STEM activities, clubs and competitions.
4. Academy creates STEM Academy orientation for parents and stakeholders.	4. Opportunities exist for parents and stakeholders to participate in service learning, and/or attend student presentations.	4. At least bi-annual opportunities exist for parents and stakeholders to participate in STEM activities.	4. Annual parent and stakeholder participation goals are developed and monitored for continued improvement.
	<i>And meets criteria from Developing</i>	<i>And meets criteria from Developing and Implementing</i>	<i>And meets criteria from Developing, Implementing, and Mature</i>

Benchmark 3: Student Outreach, Recruitment, and Retention

- Review Program Requirement 3.1.A/B/C and 3.2.A/B.

Describe the Academy's open-access admission policy, the marketing, and recruitment plan to parents, students, and the community; and partnering with feeder schools to increase advancement rates in STEM from elementary to middle to high school.

Student enrollment at the Energized for STEM Southeast is 266 students. We met many recruiting challenges this year with the relocation of the high school and our numbers did not meet the target growth projected. However, we are redoubling our efforts with an aggressive marketing and recruitment plan that includes starting an early major multi-facet recruitment blitz designed to attract and retain highly motivated students in the Houston area who are interested and would benefit from the program.

While the Academy's Distinguished Academic Performance, have been helping to achieve the enrollment target, we are have been working through the Academy's Office of School Choice Department. This department has two full-time staff people dedicated to year-round student recruitment activities. They also are responsible for marketing school programs and student successes.

The Office of School Choice staff developed an aggressive multi-platform marketing, recruitment, and retention plan. The recruitment plan includes recruiting students from the greater Houston area with the goal of attracting and retaining highly motivated students who are interested and would benefit from the program. Key marketing and recruitment campaign talking points are; the fact that we have a 100 percent graduation rate, our seniors are accepted into at least one college or university, students receive competitive academic scholarships, and the only Houston Independent School District Marine Corps JROTC program.

- STEM Academies host orientation, summer bridge, and college preparatory seminars for parent and students; encourage student leadership, monitor student participation in STEM activities, clubs, competitions and field experiences; and develop intervention plans for students who minimally participate.
- STEM Academies maintain persistence rates above 70%, with a goal of at least 90%

Describe the campus plan to progress to "Mature" on the continuum for Program Requirement 3.3 Student Support and Retention (review the "Benchmark 3 Program Requirements" link at the top of this page).

Summer bridge programs are implemented for all students. Incoming freshmen students are provided with opportunities to sharpen the core academic skills required to be successful in the advanced studies that they will undertake in the Fall semester. These opportunities are provided through our local IHE partners, who plan creative, high-interest STEM-related projects that engage students in learning math and science objectives.

The Academy has six-year partnership with Texas A&M University, University of Texas, Dallas, Texas Southern University, and Prairie View A&M offer summer STEM camps for middle and high school students. Led by STEM professors with support provided by undergraduate and graduate students, these camps immerse our students in a STEM learning experience and teach them skills that can be applied across all areas to solve real-world problems. Additionally, the summer program works with the students on content and test-taking skills to improve performance on the Scholastic Aptitude Tests (ACT and SAT).

A variety of clubs and activities offer multiple opportunities for students to develop leadership skills, based on their interests. Students participating in the Robotics Club participate in competitions that provide opportunities to display their emerging engineering skills. The Chess Club sharpens the critical thinking skills that lead to effective problem solving.

Monthly Family Nights provide the opportunity for parents to learn more about the classroom activities of the Academy, view exhibitions of student work and celebrate the successes of their children. On a daily basis parents can keep abreast of classroom assignments, class syllabi, and student portfolios through the Energized for STEM Academy website and Grade Speed.

Benchmark 4: Teacher Selection, Development, and Retention

4.1.E.	Provides opportunities for ongoing professional development to improve teachers' content knowledge, technology embedded instruction, integrative STEM pedagogy, college and career readiness standards, instructional strategies for ensuring a successful P-20 pipeline, and leadership capacity.
4.2.A.	Develops a Professional Development (PD) plan for a sustained professional development model of continuous learning based on student results, teacher development, and the short- and long-term goals of the Academy.
4.2.B.	Adopts a systemic professional development model of continuous learning that addresses prioritized needs as informed and evaluated by multiple sets of quantitative and qualitative data (student assessment data, instructional/classroom evaluations, technological developments, workforce demands, demographic changes, and community/societal expectations and needs).
4.2.C.	Sustains a PLC by instituting job-embedded ongoing opportunities for continuous learning, peer coaching/mentoring, STEM externships, and participation in STEM teacher and leader cadres for teachers and administrators (research-based practices, content competence, new instructional strategies, technology integration, reflective inquiry, and student artifact analysis).
4.3.C.	Adopts and implements a plan for new teachers to include orientation, induction, acculturation, mentoring, professional development, and administrative support.
4.3.D.	Designs or employs innovative programs to support the recruitment and selection of highly qualified STEM teachers.

Key Elements for Success

- Master schedule with common planning time
- Teacher turnover rate
- Teacher mentoring program
- Written recruitment plan

	Developing	Implementing	Mature	Role Model
4.1.E	Academy has authority to hire "best" qualified for goals of the Academy and STEM blueprint requirements.	Develops a written plan for creative recruiting to ensure high qualified, effective teachers.	Develops annual needs assessment and actively implements a teacher recruitment and placement program.	Resources are allocated for recruitment of best qualified candidates, with the Academy partnering with teacher preparation programs such as UTeach, to recruit highly qualified teachers for Academy needs.
4.2.A. 4.2.B.	Develops PD plan with clear pedagogy expectations, aligned with mission goals, teacher needs, and student needs	Academy regularly uses diverse assessment tools/processes, enhanced media, adult learning theories, professional reflection time, problem-solving protocols, and self-paced learning with computer and human interaction for support, coaching, mentoring, and collegial interaction.	Needs assessment and PD plan address teacher and student retention to include teacher, student, and parent voice in decision-making process.	Meaningful partnerships with external organizations ensure progressive expectations for educators' application of content knowledge, curriculum design, and delivery.
4.2.C.	Develops a PLC plan that identifies ways in which teachers will work in collaborative teams to build shared knowledge and formative/summative data.	Teachers collaboratively develop 6th - 12th common essential student outcomes which reflect their efforts to build shared knowledge regarding best practice, (STEM integration, college and career readiness, 21st century skills.).	Teachers collaboratively clarify the criteria they use to judge quality of student work and criteria is consistently applied horizontally and vertically.	Teachers participate in externships and mentorships with higher education and industry. PLC plan is annually monitored, evaluated, and revised for effective practice.
4.3.C	Develops an Orientation plan aligned to Academy mission and vision, and teacher enculturation.	Induction plan addresses Academy expectations for instructional skills; interactions with students, parents, and community; classroom management; assessment of learning; technology; professional development; and mentoring.	Induction process is clearly enunciated, consistently practiced, and evaluated and revised for effectiveness.	Each new teacher participates in the induction process, is assigned a mentor teacher, understands the strategic goals of the Academy, and completes a Needs Assessment that identifies areas for individual professional development.
4.3.D.	Common planning time within the school day focuses on PLC collaboration.	Teams develop team-time norms, set goals, and evaluate effective use of team-time for curriculum development, student artifact reflection, parental involvement, etc. <i>And meets criteria from Developing</i>	Teams develop common metrics to measure and inform, in order to identify strengths and weakness in their individual practice, and to collaboratively improve their individual and collective efforts to help all students learn. <i>And meets criteria from Developing and Implementing</i>	Collaborative school-level planning is judged effective as evidenced by student learning outcomes. <i>And meets criteria from Developing, Implementing and Mature</i>

Benchmark 4: Teacher Selection, Development, and Retention

- Review program requirements for benchmark 4 in the link above.

Describe how the Academy will recruit, support, and retain highly qualified teachers. This should include plans for:

- Teacher recruitment and retention plan
- Sustained professional development (PD) plan which incorporates project-based learning and an integrated STEM curriculum into instructional practices based on qualitative and quantitative student data. (A timeline of planned PD will be uploaded in Benchmark 7.)
- A job-embedded Professional Learning Community with common planning times for collaboration.
- New teacher support (new to Academy and/or teaching profession).

The teacher selection, development and retention are at the "Mature" stage. Teacher retention is at 80%. To successfully evolve to this stage will include the increased efforts to refine the Needs Assessment, Professional Development Plan and more enriched Employee Benefits. The plan will continue to be developed through collaborative channels of communication. Benchmark and diagnostic testing for all staff identify and results are matched with the areas in which students need additional support. Staff in the development of their personal professional development plans, which are created annually, earmarks these needs. Inquiry is encouraged and often used by teachers.

Providing more opportunities for individual staff members in included in the PLC's operations where weekly reviews of the THSP portal provides opportunities for individuals to participate in webinars, and other professional development opportunities in a "just In time" environment. A Project Share account has been established whereby teachers participate in online professional development resources, online professional communities, and search for best practices in STEM teaching on the Project Share portal's online professional communities.

Significant to the development of the overall professional development plan is the data set gathered from the feedback from students, parents, and collaborating business and IHE partners. Future growth opportunities are incorporated in the Academy's long-range plan to increase community-based and IHE membership on the Advisory Board. Each new member will bring additional expertise and resources to the table to help address the professional development needs of the Academy.

Common discipline planning periods designed to create collaborative, planning and strategic use of time will be phased in as a part of the master scheduling process. Teachers will receive and be required to participate in more collaborative planning opportunities.

Job descriptions are continually refined each year to adequately reflect the duties and responsibilities of staff. Activities and responsibilities for staff members reflect the needs of the students. An example of changing duties can be found in last year's Advisor's role.

With each graduating class, staff is required to increase advisor duties to include working with IHE representatives in supporting students in choosing and completing a culminating capstone project. The Advisor and IHE representative monitors the planning and development of the project by providing frequent critiques that included observations of strong areas of work as well as those areas in need of improvement.

Teacher recruitment efforts revealed the need for more skills and knowledge that today's Academy staff must possess in order for our students to be successful.

Clearly articulated expectations include: student coaching before and after-school and during revised schedules; participation and leadership in professional development opportunities throughout the year to include nights, weekends, and summer; participation and attendance in E-STEM Summer Enrichment and Bridge Camps for students; and participation on E-STEM Advisory Board meetings; and continual and positive E-STEM parent and community communications, through contributing to newsletters, teacher conferences, recruitment efforts, and websites.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.1

- Course syllabi, lesson plans, unit lessons, PBL, scope, sequence, pacing guides
- Lessons include STEM standards, state standards, national standards, college and career readiness standards, 21st century skills
- Benchmark schedule, course passing rates, retention rates
- Student portfolios, IGPs, counseling, advising, college crosswalk, and feedback loop
- Plans for PSAT, Accuplacer, TSI, CTE, interventions, etc.
- Horizontal and vertical alignment of curriculum
- Students graduate with Endorsements & Performance Acknowledgements

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		Developing Investigate, Research, and Create	Implementing Formalize, Revise, and Publish	Mature Data-driven evaluation of effectiveness of program requirements	Role Model Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.1.A.	Aligns curriculum, instruction, and assessment (such as, but not limited to, Texas CCRS, national and state standards, content, context, culture, cognitive level, competencies, skills, processes, 21st century skills, and STEM synthesis).	Mature			
5.1.B.	Develops a scope, sequence, and pacing guide for a vertically and horizontally aligned curriculum centered on state standards, career and college readiness standards, STEM integration, and industry expectations.	Role Model			
5.1.C.	Develops an assessment and intervention plan to address gaps in student achievement and areas for extension.	Role Model			
5.1.D.	Supports and encourages all students to successfully complete four years of mathematics, four years of science, four years of STEM electives, and at least one Endorsement in STEM, Business and Industry, Public Services, or Arts and Humanities, with a primary focus on a STEM Endorsement; and earn a Distinguished Level of Achievement as well as a Performance Acknowledgement in order to graduate college ready.	Role Model			
5.1.E.	Offers dual credit, articulated concurrent enrollment, AP or IB courses that all students will graduate with 12-30 college credit hours.	Mature			
5.1.F.	Establishes curriculum expectations, monitoring, and accountability mechanisms that are reflectively revised to ensure a constancy of mission purpose (aligned resource allocation, integrated STEM curriculum development, teacher professional growth, and student results).	Role Model			

5.1 Rigor

- Review the program requirements for Benchmark 5.1 Rigor on the previous page.

Describe how the Academy will progress along the continuum. This should include plans for:

- Alignment of curriculum and instruction as supported by assessment
- Assessment/intervention or acceleration plans for students
- Plan for four tears of math, science, and 12-30 college credit hours (dual credit/AP/IB)
- HS Endorsements available to Academy students

Formative and summative assessments are conducted to ensure accountability and to disseminate results of the project to the community, district and TEA. A variety of instruments will be used to assess how well the program meets the goals and objectives and Implementation of the Blueprint. Since the effectiveness of the program depends upon the implementation of all activities outlined implementation plan, all major components will be monitored by Advisory Committee, documented, and evaluated on an ongoing basis to ensure that ongoing monitoring immediately corrects for deficiencies and results in optimal and continuous improvement.

As a guide for planning, a rubric gives students clear targets of proficiency to aim for. As an assessment tool, teachers can use it to assess projects, student groups, or individual students; students can use the same rubric for self-assessment as individuals, in groups, and for peer assessment; and parents can answer for themselves their questions about their child's performance. Other types of performance assessments include projects, performances, and exhibitions.

Vertical and horizontal summative assessment is achieved through norm-referenced and criterion-referenced assessments using the Texas Assessment of Knowledge and Skills, beginning in 2013, the State of Texas Assessment Academic Readiness (STAAR) and the Stanford 10 Test of Achievement. Additional summative strategies include: 1) analysis of the campus STaR Chart for evidence of staff proficiency with technology; 2) TEA Academic Excellence Indicator System for cumulative results of attendance, and achievement. State, college and career readiness will be tracked using the AEIS System. From this system, the school document number of students: 1) completing Advanced/Dual Credit courses, 2) completing the Distinguished Achievement Program; 3) participating and their performance on \Advanced Placement (AP) examinations; (meeting the Higher Education Readiness criteria; 4) participating and their performance on the College Admissions Tests (SAT and ACT; and 5) deemed college ready upon graduation.

Students earn a Foundation High School Program Diploma and declare an endorsement area. Energized for STEM Academy offers three of the five endorsements.

1. STEM (Science, Technology, Engineering and Math)
2. Public Services
3. Multidisciplinary Studies

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.2

- Defined engineering coursework (Infinity Project, Project Lead the Way)
- Student journals, student presentations, peer performance assessment rubrics, and peer mentors
- Self-paced learning, student contracts, progress reports, exit interviews, parent/teacher/student conferences
- Lessons include work force clusters, expert practitioners, field-based learning, research of current issues, PBLs, guest speakers, differentiation, intervention and acceleration plans, student choice
- Number of offerings and number of students participating in co-curricular activities, clubs, academic teams, and competitions (UIL, Brain Bowl, Science Olympiad, Model UN, FIRST, BEST, Vex etc.)
- Design conceptual internships, identify STEM opportunities, business partners, scientific organizations, and universities
- IGP w/capstone project (research, annual review, and analysis)

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		Developing Investigate, Research, and Create	Implementing Formalize, Revise, and Publish	Mature Data-driven evaluation of effectiveness of program requirements	Role Model Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.2.A.	Delivers innovative STEM programs that are well-defined, embed critical thinking and problem solving, innovation and invention, and are aligned to state and/or national standards and industry expectations.	Mature			
5.2.B.	Supports and encourages students to complete three years of STEM electives at middle school and four years of STEM electives at high school.	Mature			
5.2.C.	Develops performance-based and project-based assessments aligned to these innovative programs and state/national/industry standards.	Mature			
5.2.D.	Develops and implements a plan for supporting accelerated student achievement for students with demonstrated deficiencies or proficiencies in mathematics and science, to promote all students graduating ready for enrollment in credit-bearing postsecondary courses (e.g. Algebra I enrollment by 8th grade).	Mature			
5.2.E.	Incorporates into the curriculum work-based contextual learning with a global perspective.	Role Model			
5.2.F.	Participates in extra-curricular academic activities centered on science, technology, engineering, and mathematics; i.e. STEM field experiences, clubs, and competitions.	Role Model			
5.2.G.	Develops 6th-12th students' portfolios of interest in: STEM capstone projects, STEM internship opportunities, and global STEM college, degree, and career explorations. Requires all high school students to complete an internship, and/or a STEM-related capstone project, presentation, and defense; primarily focused in the state's STEM-related economic development clusters (information and computer technology, energy, petroleum refining and chemical products, advanced technologies and manufacturing, aerospace and defense, biotechnology and life sciences.).	Role Model			

5.2 STEM-Focused Curriculum

- Review program requirements for Benchmark 5.2 STEM-Focused Curriculum on the previous page.

Describe how the Academy will progress along the continuum. This should include plans for:

- Well-defined STEM programs that are aligned with state, college and career readiness, and industry standards and embed critical thinking and problem solving, and foster innovation and invention
- Three years of STEM electives at middle school and four years of STEM electives at high school. For high schools, list the CATE elective pathways and courses that support each Endorsement offered by the Academy
- Performance and project-based assessments aligned to state, college and career readiness, and industry standards
- Work-based and contextual learning in the curriculum
- STEM-focused extracurricular activities (field experiences, clubs, and competitions)
- STEM-related internships and/or senior capstone projects, presentation, and defense
- Plan for 6th-12th student STEM portfolios

Through our partnership with Texas A & M University, we have access to Project Lead the Way (PLTW), a cutting edge curriculum focused on engineering and biomedical sciences. This highly rated program is used on both the middle school and high school levels. Teachers participating in the core training have implemented the basic courses and select advanced courses. This resource has provided additional rigor and the foundation for students to learn engineering concept and skills. The curriculum is aligned with state, college readiness and industry standards and embeds critical thinking and problem solving as well as fosters innovation and invention.

As evidenced in the Master Schedule, and in the students' IGP's, all students are required to take four years of mathematics, science, and STEM electives. 100 percent of the graduating Texas Scholars and nearly 50 percent of the students earned the "Distinguished" high-school diploma and the remainder received "Recommended" high-school diploma.

Students at the Academy participate in STEM related extra-curricular activities that build STEM-related skills. Examples include: The Robotics Club that offers opportunities for students to participate in local and state competitions through organizations such as First Robotics. The purpose of the Math Club is to encourage students to explore real life applications of math in the school, community, and at home. It is appealing because students play mathematic games as they sharpen their mathematical skills. Another extra-curricular activity that builds STEM-related skills is the Schlumberger Log-in Program that is designed to teach students how to design industry useful computer applications and robots.

Our senior students are working on their capstone projects. As graduating seniors, the capstone project will feature the student's experience in the STEM environment or an in-depth exploration of an area of the curriculum. The project will require the disciplined use of skills, methodology, and knowledge throughout the high-school curriculum and will culminate in the final term of study to build on previous learning. The project will be a semester long, which culminates in a paper, essay, presentation or similar product.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.3

- Peer observations, mentors, cross-curricular teams
- Walkthroughs, observations, model lessons
- Data informs scaffolding, re-teaching, and extension
- Team planning that defines student products, assessments, rubrics, and standards for cross-curricular and other PBLs, teacher research on STEM field expectations, current issues, and technology.
- Student presentations include digital materials, peer and internal/external expert evaluation
- Academy teachers have mentors at university and industry level that provide input to curriculum development
- Year-at-a-glance checklist documenting course coverage of state standards, 21st century skills, college readiness standards throughout grading period

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		Developing Investigate, Research, and Create	Implementing Formalize, Revise, and Publish	Mature Data-driven evaluation of effectiveness of program requirements	Role Model Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.3.A.	Incorporates data-driven instruction.	Role Model			
5.3.B.	Creates an environment for shared teacher responsibility and accountability for student learning across programs, content areas, and classrooms.	Mature			
5.3.C.	Organizes instructional expectations around problem-based and project-based learning with clearly defined learning outcomes for students and teachers that address state and national performance standards, college and career readiness standards, and industry expectations.	Mature			
5.3.D.	Ensures teachers' use of the aligned scope and sequence and integration across the disciplines.	Role Model			
5.3.E.	Ensures teachers' use of high-quality curricular materials aligned with state and national standards, college and career readiness standards, and industry standards.	Role Model			
5.3.F.	Provides opportunities for students to exercise choice and voice within a relevant and rigorous context.	Role Model			

5.3 Instructional Practices

- Review the program requirements for Benchmark 5.3 Instructional Practices on the previous page.

Describe how the academy will progress along the continuum. This should include plans for:

- Data driven instruction
- Shared teacher responsibility and accountability (PLC)
- Project Based Learning (PBL)
- Alignment of scope and sequence with state, CCRS, and industry standards
- Students exercise choice/voice within relevant and rigorous curriculum

To ensure that instruction is delivered appropriately, the principal and lead teachers conduct daily walk-throughs of Academy classrooms, recording their findings in an observation log. Findings are discussed with individual teachers and during staff meetings.

To ensure student success, benchmark assessments are implemented. For each core course, the TEKS and STAAR objectives and student expectations will be incorporated into teaching units.

After completion of the units, students are assessed for mastery. Those students falling to meet standards are tutored during/after school hours and pullout sessions. The results of student benchmark performances direct teacher assessment. The decisions to adjust instruction will be based on data derived from the benchmarks, informal diagnostic testing and performance assessments. The instructional coordinator hold teacher conferences to review strengths and weaknesses of the students so that they can adjust lesson plans and generate alternative and refined instructional methodologies.

The instructional philosophy at E-STEM is that for the school to thrive, student achievement must be a shared responsibility of those that provide the avenues to learning. One step in this direction is the pairing of highly accomplished teachers with those to the field. The mentor teacher provides the support and guidance so that a neophyte teacher does not feel isolated.

Fostering the advancement learning communities, staff members are involved in collaborative, shared planning times weekly to foster a union and community of teacher-learners. A leadership coach has provided training to ensure common planning time is well utilized. The instructional coordinator works collaboratively with core teachers to organize instruction using scope and sequence of other core areas to align and enhance instruction around state standards. Teachers work in vertical and horizontal teams for planning and delivering instruction.

A frequent mode of professional development is peer observation and assessment. A peer teacher observes a teacher's classroom and provides feedback. The person observing the classroom instruction acts as another set of "eyes and ears" for the teacher.

Staff personalizes the STEM curriculum using project-based learning as a vehicle to present STEM content in a real world context. Project-based learning helps students develop skills for living in a knowledge-based, highly technological society. Solving highly complex problems requires that students have both fundamental skills and Digital Age skills. With this combination of skills, students become directors and managers of their learning process, and are guided and mentored by a skilled teacher.

ELAR and Mathematic teachers use the State-adopted TEKS and STAAR that infuse the College and Career Readiness Standards developed by the TEA and the Higher Education Coordinating Board. Social Studies teachers will participate in professional develop standards during the 2015/2016 academic school year.

At the Academy, students exercise choice/voice within the relevant and rigorous curriculum. There are required courses for graduation that the students must take. The electives are where students have choices. We offer several STEM-related electives such as Computer Design, Computer Technology and Robotics, to name a few.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.4

- Project Based Learning (PBL)
- Systemic expectations for number of presentations per class, documentation of students presenting to internal and external panels
- Design teams, group projects, multiage projects, simulations, robotics teams, green teams
- Project scenarios based on real-world issues (Future City, FIRST, Odyssey of the Mind, etc.)

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		Developing Investigate, Research, and Create	Implementing Formalize, Revise, and Publish	Mature Data-driven evaluation of effectiveness of program requirements	Role Model Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.4.A.	Promotes instructional strategies that challenge students to think critically, innovate and invent to solve real-world, contextual problems.	<i>Role Model</i>			
5.4.B.	Exposes students to critical readings in STEM-related fields and requires students to demonstrate their understanding of STEM disciplines in a work-based, contextual environment.	<i>Mature</i>			
5.4.C.	Offers standards-based STEM programs that incorporate integrative STEM literacy and innovative instructional tools.	<i>Mature</i>			
5.4.D.	Promotes applied and collaborative learning, and provides students with opportunities to present/defend their work to peers, community, industry, and university leaders.	<i>Role Model</i>			
5.4.E.	Promotes a rich culture that incorporates a natural use of current technologies to enhance instruction, curriculum, teaching, and learning, and STEM literacy.	<i>Mature</i>			

5.4. STEM Education Integration

- Review the program requirements for Benchmark 5.4. STEM Integration on the previous page.

Describe how the Academy will progress along the continuum. This should include plans for:

- Students apply critical thinking, innovation and invention, to problem-solve real-world scenarios.
- Student exposure to STEM related fields and understanding of STEM disciplines in a work-based, contextual environment
- Students present/defend their learning (PBLs and capstone projects) to external experts
- Use of current technologies to enhance instruction, curriculum, teaching and learning, and STEM literacy

Assessment in PBL occurs at two levels; when the students evaluate their strengths and weaknesses throughout the problem-solving experience, and while the teacher has the opportunity to evaluate the students' learning process. Teachers evaluate students through interactive teaching, observing students working with ideas and materials and asking questions that challenge students to assess themselves. In order to promote learning, ongoing and timely feedback is provided to students with appropriate, mile markers in their learning progress.

Performance-based assessments will provide evidence of the students understanding of STEM concepts. These assessments include portfolios. Each portfolio consists of sequential projects completed to help demonstrate student progress with respective subjects. Portfolios can include initial plans, drafts, self-evaluations, feedback from peers and teachers, and plans for subsequent projects. Rubrics are also be used to define and describe the important components of the problem being studied.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.5

- Academy-developed process in place to identify STEM and content relevant vocabulary and just-in-time literature
- Plan for vertical and horizontal expectations, per grade level, of STEM vocabulary and relevant literature
- Literature- and language-rich environment which includes technical language journals, articles, periodicals, current events newspapers, online resources, webinars, and texts
- STEM-focused strategies and activities such as word walls, student journals, literature circles, mock trials, student forums, debates
- Stakeholder input into selection of STEM instructional materials student goals and reflections (literacy in STEM, 21st century skills, technology, etc.)
- Integrative instruction and instructional materials

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		Developing Investigate, Research, and Create	Implementing Formalize, Revise, and Publish	Mature Data-driven evaluation of effectiveness of program requirements	Role Model Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.5.A.	Promotes technologically proficient and scientifically literate students with highly developed academic vocabulary and STEM technical vocabulary.	<i>Mature</i>			
5.5.B.	Graduates 21st century literate students proficient in: English, reading, speaking, writing, numeracy, arts, health, sciences, and world languages; government, civics, history, and geography; environmental science; global awareness; information, communications, and media technology; and financial, economic, business, and entrepreneurship.	<i>Role Model</i>			
5.5.C.	Selects appropriate STEM curriculum and culturally relevant instructional materials that foster widespread use of literacy strategies within the STEM curriculum.	<i>Role Model</i>			
5.5.D.	Provides opportunities for students to demonstrate the relevancy of the content through reading, writing, speaking, and presenting.	<i>Mature</i>			

5.5. Literacy

- Review the program requirements for Benchmark 5.5 Literacy on the previous page.

Describe how the Academy will progress along the continuum. This should include plans for:

- Technologically and scientifically literate students
- 21st Century skills-literate students
- STEM curriculum and culturally relevant instructional materials
- Academy literacy plan

Energized for STEM Academy Inc. functions as a professional learning community and there will be a shift from a focus on teaching to a focus on learning. Within the PLCs, common assessments will be developed to ensure there is alignment between curriculum, instruction, and assessment.

Assessments for learning require us to identify where students are in their learning, where they need to go, and how best to get there. This requires clear evidence of driving up individual attainment; clear and concise feedback for and from students so there is clarity on a student's opportunities for improvement and their potential; and to develop a definitive link between student learning and lesson planning.

Major strategies:

- Weekly E-Stimulating Math Lab, using research-based strategies/initiatives to address area(s) of identified weakness in math and science.
- Employing additional instructional support in the area of math through local University Professors.
- Lead teachers, who have received specific training during the summer and during the school year, provide on-site training and monitoring to assist in professional development.
- Family Math, Science, and Literacy Nights are held monthly to increase parent awareness in the school's programs. Open Houses, frequent telephone contact and E-STEM weekly communicator is sent to keep parents updated about upcoming events.
- Provide teachers with professional development trainings and resources that would assist in increasing rigorous academic instructional delivery.
- Continue to provide additional instructional support for students during school hours, after school, and on Saturdays.
- Use assessment data to drive instruction and make academic decisions.
- Track student performance and include students in their learning plan.
- Modeling – we have are focusing on model-based learning to avoid telling students to or write something without first showing them how it is done. This requires a step-by-step writing process that takes students through all the stages of writing in order to ensure that are comfort writing on their own.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.6

- Data informs instruction, plan for gaps and extension
- Curriculum aligned with standards, STEM, industry, and higher education
- Formative, diagnostic, and summative assessments, lesson redesign
- Student artifact reflection is used to inform diagnostic tools and processes
- Pre/post tests, cumulative folders, parent conferences, parent portal, student learning logs
- Pre-assessments/ post-assessments, course offerings for interventions, grades, end of course exams, student presentations, narrative assessments, oral assessments, product based assessment
- IGP's, progress reports, student information sheets, home visits, parent conferences, PEIMS info, call logs, counseling schedule/visits
- Student designed projects, project rubrics, peer reviews, panel reviews, adult/expert reviews
- Project lists knowledge and skills, 21st century skills and levels of skill mastery; course syllabus provides list of performance-based assessments; PD for teachers on developing PBLs

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		Developing Investigate, Research, and Create	Implementing Formalize, Revise, and Publish	Mature Data-driven evaluation of effectiveness of program requirements	Role Model Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.6.A.	Uses diagnostic, ongoing, and vertically and horizontally aligned formative and summative assessments for all students to drive instructional decisions.	<i>Mature</i>			
5.6.B.	Uses state and national standards, college and career readiness standards, industry standards, and STEM program requirements to develop common benchmark assessments.	<i>Mature</i>			
5.6.C.	Employs student readiness assessments or diagnostics to identify and address gaps in learning.	<i>Role Model</i>			
5.6.D.	Tracks and reports student progress using student information systems.	<i>Role Model</i>			
5.6.E.	Uses performance-based assessments that allow students to demonstrate their understandings of STEM concepts.	<i>Role Model</i>			

5.6 Assessments

- Review the program requirements for Benchmark 5.6 Assessments on the previous page.

Describe how the Academy will progress along the continuum. This should include plans for:

- diagnostic, ongoing and vertically and horizontally aligned formative and summative assessments;
- state, college and career readiness, and industry standards alongside STEM program requirements;
- student readiness assessment to address gaps;
- student information systems to track progress; and
- performance based assessments that demonstrate student understanding of STEM concepts

Formative and summative evaluations are conducted to ensure accountability and to disseminate results of the project to the community, district and TEA. A variety of instruments are used to assess how well the program meets the goals and objectives and Implementation of the Blueprint.

Since the effectiveness of the program depends upon the implementation of all activities outlined in the implementation plan, all major components will be monitored by Advisory Committee on a monthly basis, documented, and evaluated on an ongoing basis to ensure that ongoing monitoring immediately corrects for deficiencies and results in optimal and continuous improvement.

Vertical and horizontal summative assessment is achieved through norm-referenced and criterion-referenced assessments using the TEKS, STAAR and the Iowa Assessments. Additional summative strategies include: 1) analysis of the campus STaR Chart for evidence of staff proficiency with technology; 2) TEA Academic Excellence Indicator System for cumulative results of attendance, and achievement. State, college and career readiness will be tracked using the AEIS System.

From this system, the school document number of students:

- A) Completing Advanced/Dual Credit courses,
- B) Completing the Distinguished Achievement Program;
- C) Participating and their performance on Advanced Placement (AP) examinations; (meeting the Higher Education Readiness criteria);
- D) Participating and their performance on the College Admissions Tests (SAT and ACT); and deemed college ready upon graduation.
- E) Job skills assessment system measuring "real world" skills that employers believe are critical to job success are continually addressed and assessed in problem-based learning activities.

Problems will provide opportunities for students to; 1) learn to work collaboratively with individuals representing diverse cultures, religions and lifestyles 2) understand preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction; 3) investigate and analyze environmental issues, and make accurate conclusions about effective solutions and take action addressing challenges; 4) think creatively, implement innovation; 5) think critically and problem solve; and 6) communicate clearly.

Performance-based assessments will evidence the students' understanding of STEM concepts. These assessments include portfolios as an extension of projects. Portfolios consist of several projects completed in a sequence to show students' progress with a subject. Portfolios can include initial plans, drafts, self-evaluations, feedback from peers and teachers, and plans for subsequent projects. Rubrics are also be used to define and describe the important components of the problem being studied. Other types of performance assessments include projects, performances, and exhibitions.

Benchmark 6: Strategic Alliances

Program Requirements

6.2.A.	Identifies and secures key business, industry, and community partners to support STEM Academy efforts (mentorships, service learning projects, etc.).			
6.2.C.	Identifies and secures key business and industry partners to provide STEM-related job shadowing, internships, and externships for students and teachers.			
6.3.A	Develops a Memorandum of Understanding (MOU) for dual credit.			
6.3.C	Develops partnerships to support a college going culture and to provide STEM graduates access to college support services (college trips, college entrance aid, GEAR UP and P-20 initiatives).			
6.1.B	Provides opportunities to educate students/parents on STEM Academy expectations such as parental engagement, college connections, scholarship opportunities, mentorships, etc.			
	Developing	Implementing	Mature	Role Model
6.2.A 6.2.C	Initiates a few partnerships with business, community, and industry.	Initial contact made and some support is provided by community business partners. Business and industry relationships are limited to onsite mentoring activities and some minor financial support.	Partnership with business and industry is formalized via established agreements. Outcomes and expectations are concrete and regularly reviewed. Partnership is evident by two-way communication of goals and vision as to what the STEM program provides.	Each major academic area is sponsored by corporate or community partners. Industry representation is a key component of the STEM strategic planning process. Integration of Academy students in business and community activities is visible.
6.3.A 6.3.C	Initial contact made and some support is provided by higher education organizations. Some courses are available to enhance STEM curriculum integration.	Develops Higher Ed connections to facilitate MOUs, crosswalk plans, teacher mentors, and externships.	Partnerships and MOUs with higher education communities are an integral component of Academy delivery model.	College credit is given to STEM students upon completion of academic work sanctioned by accredited colleges. Admission rates for STEM students to IHE exceed the normalized rates for all students within the sponsor school system.
6.1.B	Minimal strategic communications with parents and families.	Regularly scheduled distribution of communications is planned and presented to key stakeholder groups. <i>And meets criteria from Developing.</i>	Strategic communications are timely and are developed ad hoc as conditions warrant. Key messages are presented by leadership emphasizing the importance of the communication to the intended audiences, via community town halls, PTO meetings, advisory board meetings, and school board presentations. <i>And meets criteria from Developing and Implementing.</i>	Real time communications are evident via communications technologies such as websites, newsletter articles, and media presentations using the community's public service forums, (public television and radio). Leadership is easily accessible and continuously engages partnerships with stakeholders in community and student families. <i>And meets criteria from Developing, Implementing, and Mature.</i>

Benchmark 6: Strategic Alliances

- Review the program requirements for Benchmark 6 above.

Describe how these strategic alliances will support the Academy. The description should include details regarding the role of each IHE, business, and/or community partnership; along with parent/family partnerships and communication conventions with the Academy.

Energized for STEM Academy-Southeast (formerly Central) actively maintains strategic alliances with local community, businesses and governmental agencies. Their interest in producing workers in the STEM fields has led to their active participation, provision of resources, and extending of expertise to strengthen the Academy's curriculum and instruction in and outside of the classroom.

Community and Business Partners:

1. BEST Robotics-Inspiring students to pursue careers in engineering, science, technology, and mathematics through robotics design
2. Global Explorers- provides experiential travel scholarships to youth who would not otherwise have the opportunity to explore our world. Students embark on an international expedition studying culture, global issues, service and leadership
3. Schlumberger- provide professional development for teachers, coding clubs for students, grants for resources and professional development funding.
4. Society for the Performing Arts - provide cultural arts enrichment
5. The Ensemble Theatre- provide cultural arts enrichment for students through theater
6. United States Marine Corps JROTC - the program uses a nationally accredited curriculum directly linked to National STEM Standards and provides youth with much needed skills in citizenship and leadership.
7. COMCAST- provides grants to purchase computers and discount internet access to student and parents whose income qualify.

Academic Alliances

1. DeVry University -offer dual credit courses for our students
2. Fisk University - provide college experiences and scholarships
3. Houston Community College - provide dual credit courses
4. Prairie View A & M University - provide a mathematics enrichment summer camp for students entering ninth grade that have not passed or have not taken Algebra I
5. Rice University - provide professional development for our teachers
6. St. Thomas University - provide professional development for our teachers
7. Texas A & M University - provide summer bridge program
8. University of Texas, Dallas - provide summer bridge program with a STEM Curriculum
9. University of Texas Medical Branch- provide professional development for our teachers and serves as our STEM Coach

Benchmark 7: Assurances

The following document must be attached in order for the T-STEM Designation application to be submitted.

Official signature: Official signature of a district or charter official authorized by the local board to bind the applicant organization in a legally binding contractual agreement.

[View Document](#)

Dual Credit MOU: The district or CMO provides assurance that a Memorandum of Understanding (MOU) with an Institution of Higher Education that defines the dual credit agreement is current (for the 2016-2017 school year). The MOU must be signed by all parties and ensure that sufficient detail are included and is on file at the T-STEM Academy. The executed IHE MOU for dual credit must be available for review by TEA upon request.

☒ Assurance Provided

If the T-STEM Academy is only providing AP coursework, list the AP courses that will be taught in the 2016-2017 school year.

Professional Development Plan: The T-STEM Academy applying for designation, provides assurance that a Professional Development Plan detailing the types, frequency, the provider of STEM professional development to be provided during the 2016-2017 school year, and is on file at the T-STEM Academy. The professional development plan must be available for review by TEA upon request.

☒ Assurance Provided

Business Agreement: The T-STEM Academy applying for designation, provides assurance that a minimum of one business agreement is current (for the 2016-2017 school year), signed by all parties, provides sufficient detail regarding the role of each party, (which allows students to participate in internship programs, capstone projects, or conduct field work) and is on file at the T-STEM Academy. The business agreement must be available for review by TEA upon request.

☒ Assurance Provided

2016-2017 Master Schedule: The T-STEM Academy applying for designation, provides assurance that the proposed master schedule, demonstrating a commitment to STEM education, rigorous coursework including Dual Credit, AP, or IB courses, and a vertically and horizontally aligned curriculum is on file at the T-STEM Academy. The 2016-2017 master schedule must be available for review by TEA upon request.

☒ Assurance Provided