Application for T-STEM Designation - New/Provisional

2017-2018

Contents

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.

Any district or charter school campus that is utilizing 2016-2017 as a planning year, and if designated will beginning implementation at the beginning of the 2017-2018 school year.

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 31st, 2017**
- 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 31st, 2017: Applications are due to TEA in order to open a campus as a designated T-STEM Academy during the 2017-2018 school year.
- June 2017: Districts submitting applications by March 31st, 2017 will be notified of the selection or non-selection of the campus as a designated T-STEM Academy on or about June 2017. Applications submitted prior to the March 31st, 2017 deadline may be approved prior to June 2017.
- 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 2017-2018 school year, signed by all parties, and provides detailed information regarding the specific assurance.
  - **Dual Credit MOU**
  - **Professional Development Plan**
  - **Business/Industry Agreement**
  - **2017-2018 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:

- A campus must be designated prior to the beginning of the school year to operate as a TEA designated T-STEM Academy for that year. T-STEM Academy designation is valid for a maximum of one year school year. Any campus wishing to be a designated T-STEM Academy must apply each year via the TEA T-STEM designation process.
- The T-STEM Academy must serve grades 9 through 12 and may serve grades 6, 7, and 8.
  - If an academy implements a 9-12 model, it must at least serve students in 9th grade.
  - If an academy implements a 6-12 model, it must, at a minimum, serve students in 9th grade and a middle school grade.
- A campus will select their campus model from one of the options below:
  - Stand-Alone Academy Single Campus: All students are enrolled in the T-STEM Academy.
  - 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 a high school for those academies that are serving students in grades 6-12.
  - School-within-School: A subset of student enrolled in grades 9-12 are enrolled in the T-STEM Academy.
  - School-within-School Multiple Campuses: a subset of students in grades 6-12 are enrolled in the T-STEM Academy; this model typically spans a middle school and a high school
  - School-within-School Other Grade Levels: all students enrolled in grades 6-12 or 9-12 are enrolled in the T-STEM Academy but other grade levels exist on the campus (such as grades K-5).
  - Other: Applicant must describe their model in detail.
- All designated T-STEM Academies are required to report student enrollment on the PEIMS Indicator during submission 1 (Fall Snapshot), 3, and 4. Submission data must be in alignment with the model selected above.
- A campus must implement during the initial designation year. Campuses that intend to enter a planning year should not apply for designation until they are ready to begin implementation.

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.

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.

CONTACTS

1.1 T-STEM Academy

T-STEM Academy Name	Humble HS STEM Academy
Mailing Address - Line 1	1700 Wilson Rd
Mailing Address - Line 2	
Mailing City	Humble
Mailing Zip Code	77338

1.2 School District

School District name	Humble ISD
Mailing Address - Line 1	20200 Eastway Village Dr
Mailing Address - Line 2	
Mailing City	Humble
Mailing Zip Code	77338

1.3 Education Service Center Region

04

1.4 Person Completing this Application

Name Prefix	Mrs.
First Name	Donna
Last Name	Ullrich
Job Title	Principal
Phone	(281) 641-6300
Email	donna.ullrich@humbleisd.net

1.5 Academy Principal/Director

Name Prefix	Mrs.
First Name	Donna
Last Name	Ullrich
Job Title	Principal
Phone	(281) 641-6300
Email	donna.ullrich@humbleisd.net

1.6 Superintendent

Name Prefix	Dr.

First Name	Elizabeth
Last Name	Fagen
Phone	(281) 641-1000
Email	Elizabeth.Fagen@humbleisd.net

1.7 T-STEM Academy Partner Information

Institute of Higher Education Partner (dual credit provider)	Lone Star College Kingwood
STEM Business Community Industry Partner	Purcell Construction

1.8 Authorized School District or Charter Official

Name Prefix	Dr.
First Name	Elizabeth
Last Name	Fagen
Job Title	Superintendent
Phone	(281) 641-1000
Email	Elizabeth.Fagen@humbleisd.net
Uploaded Signature	View Uploaded Document

Provisions and Assurances Agreement

If designated, the T-STEM Academy assures the following the minimum required components will be implemented in the2017 school year.

- A campus must be designated prior to the beginning of the school year to operate as a TEA designated T-STEM Academy for that year. T-STEM Academy designation is valid for a maximum of one year school year. Any campus wishing to be a designated T-STEM Academy must apply each year via the TEA T-STEM designation process.
- The T-STEM Academy must serve grades 9 through 12 and may serve grades 6, 7, and 8.
  - If an academy implements a 9-12 model, it must at least serve students in 9th grade.
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- A campus will select their campus model from one of the options below:
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1. 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.
3. 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.
   - The T-STEM Academy must cohort T-STEM students in core classes.
5. 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.
7. 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.

☑ the applicant assures that the above minimum required T-STEM Designation components will be implemented in the 2017-2018 school year.

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 T-STEM Academy Operation	2016

2.2 Academy Model: What is the design of the T-STEM Academy requesting designation?	School-within-School: A subset of student enrolled in grades 9-12 are enrolled in the T-STEM Academy.

2.3 Target Population

What is the grade level range of students your academy will serve?	9th-12th

The T-STEM academy must serve grades 9-12 and may serve grades 6,7, and 8.
If an academy implements a 9-12 model, it must serve at a minimum grade 9 during the initial designation school year.
If an academy implements a 6-12 model, it must serve at a minimum grade 9 and one middle school grade during the initial designation school year.

Current (if applicable) and projected student enrollment:								
Grades of students to be served	**6th**	**7th**	**8th**	**9th**	**10th**	**11th**	**12th**	**Total Enrollment**
2017-2018 projected enrollment	n/a	n/a	n/a	60	25	n/a	n/a	85
2016-2017 enrollment (if designated in the 2016-2017 school year)	n/a	n/a	n/a	48	N/a	n/a	n/a	48

County-District-Campus numbers where students from each grade level are enrolled:							
Grades of students to be served	**6th**	**7th**	**8th**	**9th**	**10th**	**11th**	**12th**
9-Digit CDC #:	n/a	n/a	n/a	101913001	101913001	n/a	n/a

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. *And meets criteria from Developing*	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). *And meets criteria from Developing and Implementing*	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. *And meets criteria from Developing, Implementing, and Mature*

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 Humble High School STEM Academy mission is modeled by our campus leadership and staff in every opportunity possible. The mission statement is formally posted in key locations around the school and on the school webpage. The mission was discussed and designed at the Advisory Board, Design Team, and Leadership Team meetings in 2015-2016 and updated as needed.

The HHS STEM Academy provides a unique opportunity for our students and was specificaly created in response of the need to prepare underserved students for college and career readiness within STEM-related fields. Several members of the Design and Leadership Teams attend various regional and state conferences that have STEM emphasis such as CTAT, Chevron STEM Initiative, and participate in Texas Regional Collaboratives for Math & Science.

The Humble High School STEM Academy remains embedded an Annual Action Plan (AAP) in the 2017-2018 Campus Improvement Plan from our first year when our Advisory Board (AB) assisted us in the integration. The AAP and HHS vision ensure that students have choice in the type of environment in which they want to learn such as project based learning, practicum and internship opportunities, online and blended learning platforms, laboratory, and traditional classrooms. Students have the option to take courses in STEM literacy, career explorations, study skills, and soft skills. The AAP ensures that courses are taught by highly qualified teachers that are receiving on-going professional development. We strive to recruit teachers that have experience and passion for teaching and in a STEM career. Data is used to drive decisions and research-based instructional practices and to ensure rigorous instructional environment. The data is also used to design and revise student interventions and the Annual Action Plan (AAP), and to inform teaching and learning aligned to the mission.

- 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.

Humble High School STEM Academy has formed an Advisory Board (AB), a design team (DT), and a Leadership Team (LT). These groups were formed to allow members from the community and within the district to work to create goals for the STEM Academy and begin implementation.

The AB was formed with representatives from Humble High School, Humble ISD, Humble ISD school board, the community, local STEM businesses, and University of Texas at Tyler, with the goal of having a committee that can guide both the DT and the LT in the creation of and the implementation of the HHS STEM Academy.

Advisory Board Members:
Scott Brady - Architect
Jed Purcell - Construction
Kyle Marven - Google
John Kollehner - Engineer Chevron
Missy Johnson - Pharmacist Walgreens
Lynette Campbell - Professor of Advanced Mathematics
Dr. Stephanie Gross Pierce - GNP
Ken Jackson - Engineer

The DT was comprised of members from our district Academic Department, our CTE Department, and a School Board member. DT members provides strict alignment with the T-STEM Benchmarks.

Design Team Members:
Robert Sitton - School Board Member (Leadership)
Donna Ullrich - Building Principal (Leadership, Design, Students, Teachers, Alliances, Advancement)
Kimberly Mouser - Instructional Administrator (Design, Curriculum, Leadership)
Charles Ned - Advanced Academics (Design, Curriculum, Advancement)
Courtney Peterson - Math Specialist (Design, Curriculum)
Lisa McCorquodale - Science Coordinator (Design, Curriculum, Students)
Marley Morris - CTE Director (Design, Leadership, Advancement)
Ann Johnson - Executive Director of Curriculum and Instruction

The Leadership Team consists of members from the district that are in charge of day to day program details and complete implementation.

Leadership Team Members:
Donna Ullrich - Administrator
Kimberly Mouser - Instructional Administrator
Lisa McCorquodale - Science Coordinator
Larkin LeSueur - CTE STEM Coordinator

The AB began meeting a year in advance of the formation of the HHS STEM Academy. The AB met every other month in 2015-2016 and will continue to do so. The DT meets monthly and sometimes two to three times a month. The LT has weekly meetings scheduled.

The HHS STEM Academy originated from the plan to reach more students and help them be successful in a rigorous STEM environment. Collaboration between all key stakeholders in the development of the HHS STEM Academy is paramount to building a successful STEM program especially for our underserved students at HHS. The voice of students, parents, businesses, and staff in regards to curriculum, scheduling, budget, and the use of time/facilities allows for all members of the STEM community to have ownership and influence in Academy decisions. Within this structure roles/responsibilities are defined but must remain fluid as we continue to build a system that will meet the ever changing needs of our business community. The Academy will use Eduphoria to collect and analyze data to create student profiles; the data will include national, state, and local assessments. The Academy will conduct surveys with businesses annually. Students and staff will complete surveys biannually.

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

Mission:
The mission of the STEM Academy at Humble High School, in collaboration with families, businesses, and community, is to develop a college preparatory curriculum with a STEM career focus while providing professional development for teachers to implement a variety of modalities of teaching to engage students in learning for the 21st century.

Vision:
The STEM Academy at Humble High School is formed by the desire to create a small learning environment where students and staff are enthusiastically engaged in learning within and outside of the walls of the building. The academy encourages collaboration, innovation, and a shared voice. Learning standards are rigorous, relevant, and cross-curricular across instruction and will inspire creativity and problem solving. Ultimately, the academy prepares students for STEM paths and that empower them with skills to successfully live in a rapidly changing world.

- 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".

Not applicable

Benchmark 2: T-STEM Academy Culture and Design - Blueprint

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.	1. Annual Action Plan and Academy handbook address plan for maintaining personalized, small, learning communities.	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.	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. Student advisory is regularly scheduled and focuses on relationships, building school capital, developing and fostering global literacy.	2. Advisory class has written curriculum with goals, expectations, scope, sequence, and pacing guides.	2. Teachers work in teams to develop systemic advisory programs with horizontally and vertically aligned student outcomes.	2. Annual resources are allocated to develop, revise, and sustain advisory program with input from students, teachers, parents, and external partners.
	And meets criteria from Developing	*And meets criteria from Developing and Implementing*	*And meets criteria from Developing, Implementing, and Mature*

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

- 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
- 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 6th – 12th 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. *And meets criteria from Developing*	3. Annually reviews and revises IGP according to previously established protocols and timelines. *And meets criteria from Developing and Implementing*	3. Mentors are assigned to students to develop intervention contracts to address deficiencies or acceleration opportunities in IGP. *And meets criteria from Developing, Implementing, and Mature*

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.	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.).	1. Handbook is developed with input from key stakeholders with clear policies, procedures, and consequences (attendance, discipline, student contracts, teacher extended days, etc.).	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. Professional Learning Community (PLC) is developed which supports staff devoting effort, energy, time, and resources into incorporating valuable new strategies into their practice.	2. An inquiry-based continuous improvement orientation to practice is pervasive, with data informing practice and learning widely shared.	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.	2. A desire to do the best for *all* 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.
	And meets criteria from Developing	*And meets criteria from Developing and Implementing*	*And meets criteria from Developing, Implementing, and Mature*

Benchmark 2: T-STEM Academy Culture and Design - Responses

- 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.

For the 2017-2018 school year, our STEM Academy students will be in a cohort with blocked courses. There will be an integration of coursework between math, language arts, science, social studies, and their STEM courses. As stated in the campus handbook, the STEM Academy is limited to 100 students per grade and a maximum of 400 students per campus. The Academy will maintain a 22 to 1 or less teacher-to-student ration. Student IGPs are created and endorsements selected with guidance from STEM counselors. We anticipate having a dedicated advisor for our STEM Academy students.

All students participate in an advisory program using the AVID curriculum. AVID, Advancement Via Individual Determination, is a global nonprofit organization dedicated to closing the achievement gap by preparing all students for college and other post-secondary opportunities. AVID brings research-based strategies and curriculum to educational institutions in elementary, secondary, and higher education. The AVID System annually provides more than 30,000 educators with training and methodologies that develop students' critical thinking, literacy, and math skills across all content areas throughout the entire campus.

Student voice is captured during the planning and implementation of our curriculum. We have started using personalization strategies designed to bring more student centered lessons to our academy. We also use biannual surveys and community discussions in advisory period. In their PBL classes, students must collaborate with their peers and teachers to learn how to have constructive discourse to teach students the value of their voice in the problem solving process.

The Academy arranges for a flexible school day as evidenced by the following situations: Late arrival Thursday for PLC for teachers
Online learning opportunities Blended Learning Opportunities
Campus provides late after school bus transportation for students utilizing tutorials.
Eight period day with two planning periods built in
Students provided with an advisory period on a modified block to be utilized for study, tutorials, projects, improving student global literacy.

The Academy celebrates student work in many ways. The Student Community Meetings are only one example of the opportunities students can show the off work. Other examples include the following:
Annual CTE Expo to showcase student projects and learning.
Student participation in First Robotics international robotics competition. Students have participated in World Competition on twice in 3 years.
Non-employee mentors from STEM careers working alongside classroom teachers.

The students of the Academy are required to complete an IGP with a unified software titled Bridges that also contains the students IGPs, graduation endorsement and performance acknowledges. These plans are revised annually to track the students IGPs progress and adjust for student needs.

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.

Using the T-STEM Blueprint, the feeder pattern middle schools currently offer Career Portals, Intro to STEM, Intro to Programming, and Intro to Engineering and Technology. In these courses students are exposed to education and career opportunities in STEM, computers science, technology, and other related fields. Students meet regularly with their counselor, for advisement regarding required coursework in order to be college ready for a STEM career. In the junior and senior years, students will participate in internships and capstone projects that prepare them for careers in computer, science, engineering, and robotics.

Utilizing the Bridges software, students will participate in a career interest survey to assist them in choosing potential career pathways.

During their summer bridge program, students will take the TSI in order to assist in formulating personalized intervention plans to close achievement gaps and prepare students for dual credit opportunities. These opportunities include dual credit, IB, articulated credit, and advanced placement.

Through the AVID curriculum, students will participate in study skill seminars in preparation for the PSAT, SAT, and/or ACT. There will be quarterly trainings for our STEM students and families over college entrance requirements and financial aid.

The Academy holds a MOU with Lone Star College Kingwood to provide mentoring, college-level courses/dual credit, professional development and technical assistance, and to foster a college-going culture.
Students will be enrolled in 12-30 credits through multiple education pathways such as dual credit, IB, articulated credit, and advanced placement. Future plans include further implementation of dual credit through the adoption of Project Lead the Way.

- 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 HHS Student Handbook has been revised to include the HHS STEM Academy. The DT and AB worked collaboratively to revise the HHS handbook implementing following key principles: student ability and achievement, efficacy and effort, power, distributed leadership, cultural sensitivity, proactive and reflective practices.

Using the students advisory time as well as the teachers collaboration time, the community will create standards around respect, responsibility, trust, and professional relationships. Students and staff regularly meet with the AB and additional business/community members to reinforce the STEM culture.

The LT and staff members will use the professional learning community model to create an authentic team which uses a variety of student data to guide decisions. Staff and members of the LT will meet daily collaborating around the four big ideas of the Professional Learning Community (PLC) model. These ideas included: What do you want students to learn? How do you know they are learning it? What do you do when they don't get it? What do you do if they already know it?

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.	1. Marketing and recruitment plan developed with input from key stakeholders, and targets feeder pattern, community needs, and cultural relevance.	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.	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 has at least 50% economically disadvantaged and underrepresented students, via an open, lottery based admission policy, where the application *does not* include requirements that might deter students such as STAAR, grades, teacher recommendation, discipline, or attendance.	2. Clearly communicated admission policy that indicates target enrollment goals and implements support processes structures such as transportation, child care, etc. to meet goals. *And meets criteria from Developing*	2. Academy tracks enrollment data and indicates some increases in recruitment/enrollment rates. *And meets criteria from Developing and Implementing*	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. *And meets criteria from Developing, Implementing, and Mature*

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 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.
	And meets criteria from Developing	*And meets criteria from Developing and Implementing*	*And meets criteria from Developing, Implementing, and Mature*

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.

The STEM academy was purposely placed in HHS as a school within a school due to its under-served population of 67% economically disadvantaged students. There is structured after school programming, four days a week, for the students to have a quiet place to do homework, have club meetings, and work on group projects.

The feeder middle schools for HHS and the STEM Academy currently offer STEM courses that the other district middle schools do not offer. In the spring, Academy students visit the feeder middle and elementary schools to mentor with students and showcase projects.

Parent students meetings are held at the middle schools Expos are held at the Academy to showcase work with the families. Students that score with a STEM interest in Bridges are met with an academic advisory and encoraged to consider the advantages of entering the STEM Academy. Students in the STEM middle school courses receive information and have meetings to learn about the Academy. All STEM middle school students are offered the opportunity to visit the Academy to learn more. After parent meetings at the feeder pattern middle schools, all parents that show interest in the program are contacted and have the opportunity to learn more about the program.

The HHS STEM Academy will conduct an open lottery of all applicants into the academy. The lottery is open every spring to all students in the HHS feeder pattern. Allowance into the lottery is not based on any requirement that could be used to limit selection.

The Academy will consist of a population around 64% economically disadvantaged. The Academy will have around 20% population of females and 80% African American, Hispanic, or other with an aggregate of over 90% underrepresented groups.

- 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).

The HHS STEM Academy holds Student Community Meetings (SCM) regularly throughout the year. Students have the opportunity to showcase their work and the administration has an opportunity to share information. During the SCMs parents and students continue to learn about the Academy and future possibilities. In the spring, students from the HHS STEM Academy feeder middle schools are invited to learn about the Academy. In the summer, Academy students become ambassadors for the Academy during Bridge Camp designed to ease the transition from middle school into the HHS STEM Academy.

The HHS STEM Academy students will be the STEM Ambassadors for the Academy. They will be going out to the feeder pattern middle schools to help recruit future students. The students of the Academy will have opportunities for judging, planning, and carrying out activities, expositions, and competitions. The students of the Academy will also guide decisions in the future of the Academy.

HHS STEM Academy students are encouraged and expected to participate in STEM activities inside and outside of the classroom and school day. The students will be given opportunities for STEM expos, STEM competitions, other STEM academies, field trips, and visits to colleges.

HHS STEM Academy holds the SCMs to further develop an understanding of and continue the commitment to the rigor of college readiness, high expectations, and student leadership of the STEM Academy.

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. *And meets criteria from Developing*	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. *And meets criteria from Developing and Implementing*	Collaborative school-level planning is judged effective as evidenced by student learning outcomes. *And meets criteria from Developing, Implementing and Mature*

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 HHS STEM Academy recruits and selects highly qualified secondary and postsecondary faculty. The Academy seeks to recruit faculty that possess extensive STEM knowledge and are enthusiastic about PBL. In order to recruit high quality effective teachers, the Academy will attend job fairs around the state, collaborate with IHE, provide professional development, and offer stipends. Academy teachers receive specialized professional development over both STEM and increasing student engagement and relevance. Success for every student in the Academy is not just a goal, but an expectation.

As the Academy grows, the future interview process for the faculty at the Academy will be different than that of the rest of HHS and the district. Academy students will be included on the interview panel. Applicants begin by producing a portfolio demonstrating usage of PBL, or are able to demonstrate characteristics that support alternative methods of engaging teaching. Candidates will undergo an intense interview only after they have created and presented a STEM lesson to the committee. Finally, the candidate will move to a traditional interview with members from the Design Team.

The PD plan focuses on further developing a college preparatory curriculum with a STEM career focus while also developing a variety of modalities of teaching to engage students in learning for the 21st century. The Academy is developing a 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). The Academy is developing an authentic PLC by instituting job-embedded ongoing opportunities for professional growth. The Academy is developing a plan that collaboratively builds 6th – 12th teacher and administrator expertise in developing, teaching, learning, and assessing STEM cross-content curriculum. The Academy provides for flexibility in instructional practices to promote creativity and innovation while maintaining accountability. The Academy provides a common planning time, within the structure of the school day. The staff will collaboratively evaluate the efficacy of the instruction, curriculum, and student results. A plan for new teachers induction includes orientation, acculturation, mentoring, professional development, and administrative support.

Teachers are matched with a mentor. Mentor and mentee relationships are an important aspect of the new teacher support from the Academy. New teachers know researched-based instructional skills; positive and safe interactions with students, parents, and community; excellent classroom management; and ongoing professional development is the norm, not the bar.

The Academy uses survey information, formal meetings, and informal anecdotal evidence to make sure that staff has a voice in choosing 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. The AAP includes a creative teacher incentive plan that provides an additional planning period inclusive only to Academy staff.

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).	*Implementing*			
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.	*Implementing*			
5.1.C.	Develops an assessment and intervention plan to address gaps in student achievement and areas for extension.	*Implementing*			
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.	*Implementing*			
5.1.E.	Offers dual credit, articulated concurrent enrollment, AP or IB courses that all students will graduate with 12-30 college credit hours.	*Implementing*			
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).	*Implementing*			

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

The HHS STEM Academy was built in order to serve underrepresented students with courses and opportunities in STEM. Therefore, all of the curriculum, instruction, and assessment delivered to students of the Academy is done with a high level of alignment and rigor. The curriculum documents of the Academy include a VAD (vertical alignment document) a snapshot (scope, sequence, and pacing guide based off of Humble ISD school calendar) and IFDs (instructional framework documents). The IFDs show the overview and alignment both vertically and horizontally of the applicable national, state, or CCR standards. The IFD states appropriate PBLs for staff to implement based on the standards and other instructional resources. Regular interaction between teachers, counselors, and students allow for immediate knowledge of gaps in student achievement and for those gaps to be addressed accordingly. The students of the Academy know that the staff will support, encourage, and expect them to successfully complete all of the course requirements in order to earn a Distinguished Level of Achievement along with a Performance Acknowledgement in order to graduate college ready. Those expected requirements are listed below:
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

Through our partnership with Lone Star College, the students of the STEM Academy are offered dual credit, an articulated concurrent enrollment, AP and/or IB courses, and every student will graduate with a minumum of 12 credit hours. Students also have the opportunity become core complete.
The AB, DT, LT, staff, and students of the HHS STEM Academy help set the expectations of success of the Academy. There is constant monitoring and evaluation of the curriculum, and accountability is present on the campus. The accountability changes shape as revisions of program and curriculum occur in order to ensure the Academy is staying true to the mission and vision.

Identify the endorsement areas that the T-STEM Academy will be offering to students in the 2017-2018 school year by checking each individual endorsement area.

☑ STEM (All designated T-STEM academies are required to offer the STEM endorsement)
✖ Business and Industry
✖ Public Service
✖ Arts and Humanities
✖ 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.	*Implementing*			
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.	*Implementing*			
5.2.C.	Develops performance-based and project-based assessments aligned to these innovative programs and state/national/industry standards.	*Implementing*			
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).	*Implementing*			
5.2.E.	Incorporates into the curriculum work-based contextual learning with a global perspective.	*Implementing*			
5.2.F.	Participates in extra-curricular academic activities centered on science, technology, engineering, and mathematics; i.e. STEM field experiences, clubs, and competitions.	*Implementing*			
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.).	*Implementing*			

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

The DT, LT, and staff of the Academy are developing 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. The LT and staff of the Academy supports and encourages students to complete three years of STEM electives at middle school and four years of STEM electives at high school. The LT, DT, and staff are working to develop performance-based and project-based assessments aligned to these innovative programs and state/national/industry standards. The LT, DT, and staff is developing and implementing 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 post secondary courses (e.g. Algebra I enrollment by 8th grade). The AB, LT, DT, and staff work to incorporate into the curriculum work-based, contextual learning with a global perspective. Students of the Academy are given opportunities to participate in extracurricular academic activities centered on science, technology, engineering, and mathematics; i.e. STEM field experiences, clubs, and competitions. The LT and staff of the Academy are working to develop 9th and 10th grade (additional grades to be added each year) 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.)

Describe the current STEM pathways available at the academy and list all industry certifications that students have the opportunity to earn by graduation.

We currently have three STEM Pathways. Every TSTEM student begins with the Introduction to Engineering Design. Then they go to one of the below: Engineering Path: TSTEM Principles of Applied Engeering Computer Integrated Manufacturing TSTEM Practicum in STEM Bioscience Path: Principles of Biosciences Biotechnology I TSTEM Practicum in STEM Technology Path: TSTEM Computer Programming I TSTEM Computer Programming II TSTEM Practicum in Information Technology Industry Certifications: AutoDesk: Inventor and/or AutoCAD Internet and Computing Core Certification (IC3) Microsoft Security Fundamentals MTA 98-367

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.	*Implementing*			
5.3.B.	Creates an environment for shared teacher responsibility and accountability for student learning across programs, content areas, and classrooms.	*Implementing*			
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.	*Implementing*			
5.3.D.	Ensures teachers' use of the aligned scope and sequence and integration across the disciplines.	*Implementing*			
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.	*Implementing*			
5.3.F.	Provides opportunities for students to exercise choice and voice within a relevant and rigorous context.	*Implementing*			

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

It is an expected tenant of the Academy that staff incorporate data-driven instruction and use backwards design when creating units of study.

The Academy strives to create an environment for shared teacher responsibility and accountability for student learning across programs, content areas, and classrooms.

The AB, DT, and LT organizes instruction 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. The focus for the upcoming school year in curriculum will be to fully implement PBL. Teacher will share responsibility and accountability for student mastery of TEKS in across content areas. Teachers will have a daily common planning time for professional learning and data analysis to improve instruction.

The LT and staff ensures teachers' use of the aligned scope and sequence and integration across the disciplines.

The DT, LT, and staff ensures teachers' use of high-quality curricular materials aligned with state and national standards, college and career readiness standards, and industry standards.

The environment the Academy has established provides opportunities for students to exercise choice and voice within a relevant and rigorous context.

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.	*Implementing*			
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.	*Implementing*			
5.4.C.	Offers standards-based STEM programs that incorporate integrative STEM literacy and innovative instructional tools.	*Implementing*			
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.	*Implementing*			
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.	*Implementing*			

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

The staff of the Academy works daily to promote instructional strategies that challenge students to think critically, innovate and invent to solve real-world, contextual problems. The focus for the upcoming school year in curriculum will be to fully implement PBL. Teacher will share responsibility and accountability for student mastery of TEKS in across content areas. Teachers will have a daily common planning time for professional learning and data analysis to improve instruction.

The curriculum of the Academy 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. Members of the Academy Advisory board will participate in in-class mentoring, facilitate field experiences, and provide an industry prospective for feedback on academy projects.

The Academy offers standards-based STEM programs that incorporate integrative STEM literacy and innovative instructional tools.

The Academy, along with the Student Community Meetings, offer applied and collaborative learning, and provides students with opportunities to present/defend their work to peers, community, industry, and university leaders including advisory board members.

The Academy strives to promote a technology rich culture of natural use of current technologies to enhance instruction, curriculum, teaching, and learning, and STEM literacy. Humble ISD will continue its financial commitment to provide for cutting edge technological resources to keep up with industry trends.

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.	*Implementing*			
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.	*Implementing*			
5.5.C.	Selects appropriate STEM curriculum and culturally relevant instructional materials that foster widespread use of literacy strategies within the STEM curriculum.	*Mature*			
5.5.D.	Provides opportunities for students to demonstrate the relevancy of the content through reading, writing, speaking, and presenting.	*Implementing*			

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

The Academy and staff promote technologically proficient and scientifically literate students with highly developed academic vocabulary and STEM technical vocabulary.

The Academy strives to 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; financial, economic, business, and entrepreneurship.

The DT, LT, and staff selects appropriate STEM curriculum and culturally relevant instructional materials that foster widespread use of literacy strategies within the STEM curriculum.

The curriculum of the Academy and the Student Community Meetings provide opportunities for students to demonstrate the relevancy of the content through reading, writing, speaking, and presenting.

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
- IGPs, 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.	*Implementing*			
5.6.B.	Uses state and national standards, college and career readiness standards, industry standards, and STEM program requirements to develop common benchmark assessments.	*Implementing*			
5.6.C.	Employs student readiness assessments or diagnostics to identify and address gaps in learning.	*Mature*			
5.6.D.	Tracks and reports student progress using student information systems.	*Mature*			
5.6.E.	Uses performance-based assessments that allow students to demonstrate their understandings of STEM concepts.	*Mature*			

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

The LT and staff use diagnostic, ongoing, and vertically and horizontally aligned formative and summative assessments for all students to drive instructional decisions. The Academy utilizes an Assessment Pathway that denotes the difference and reasons to use different assessment types from the continuum of formative assessments, check points, benchmarks, standardized tests, and Performance Indicators. Only a Performance Indicator can allow a student show an appropriate depth of knowledge over a concept.

The LT and staff use state and national standards, college and career readiness standards, industry standards, and STEM program requirements to develop common benchmark assessments.

The staff employs student readiness assessments and/or diagnostics such as TSI, PSAT 8-9, district and state mandated assessments to identify and address gaps in learning.

The staff tracks and reports student progress using student information systems including Eduphoria and Lead4Ward products.

The staff uses performance-based assessments that allow students to demonstrate their understandings of STEM concepts. The HHS STEM Academy calls these Performance Indicators to keep with the same nomenclature as the rest of the district.

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. *And meets criteria from Developing.*	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. *And meets criteria from Developing and Implementing.*	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. *And meets criteria from Developing, Implementing, and Mature.*

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.

The HHS STEM Academy uses the Student Community Meetings to share information and communicate with students, parents, community, and business members. During the Student Community Meetings, the LT and staff of the Academy take time to meet with parents and students to share and discuss the expectations and opportunities at the Academy. Several companies have been chosen to help serve and support the efforts of the students and staff of the Academy. Specifically, construction, medical, and technological companies are being asked to be partners. Currently, the business and community partners are pairing up with Academy to provide mentoring opportunities, internships, and other methods to learn about real world applications. At this time, there is only minimal financial support from business and community partners. The Academy will seek to strengthen parent and family engagement trough holding a series of seminars and shared learning opportunities.

The Academy is partnering with Lone Star College and acquired the appropriate MOU. Lone Star College is a supportive partner and currently is seeking grant opportunities to strengthen out math and science curriculum though extended summer bridge program and offer field and competitive opportunities. Lone Star College plans to utilize college professors to facilitate summer learning for out Academy students.

Benchmark 7: Assurances

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

Official signature: OOfficial signature of a district or charter official authorized by the local board to bind the applicant organization in a legally binding contractual agreement. By signing the designation application, the district assures the minimum requirements for T-STEM Designation will be implemented in the designation year.

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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 2017-2018 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 2017-2018 school year.

n/a

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 2017-2018 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 2017-2018 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

2017-2018 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 2017-2018 master schedule must be available for review by TEA upon request.

☑ Assurance Provided