



Application for T-STEM Designation - New/Provisional

2016-2017

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

Overview of Designation

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

Benefits of Designation

Recognition as an Approved T-STEM Academy:

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

Participation in T-STEM Convenings:

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

Membership in the T-STEM Network:

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

Access to Professional Development and Technical Assistance:

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

Strength of T-STEM Model:

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

Questions about Completing the Application

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

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

Will have to fill out the same application each year?

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

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

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

Who can I contact for help filling out this application?

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

Application Information

General Information:

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

Timeline & Process:

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

Required Attachments:

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

Required Supporting Documents:

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

Questions:

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

Required T-STEM Academy Design Program Elements

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

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

I. Mission Driven Leadership:

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

II. Academy Culture and Design:

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

III. Student Access, Success, and Persistence:

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

IV. Teacher Selection, Development, and Retention:

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

Required T-STEM Academy Design Program Elements cont.

V. Curriculum.Instruction.and Assessment:

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

VI .Strategic Alliances:

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

VII. Sustainability and Advancement:

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

Scoring of the Application

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

PART 1: CONTACTS

1.1 T-STEM Academy

T-STEM Academy Name	La Joya High School
County District Campus Number	108912001
Mailing Address - Line 1	604 N. Coyote Blvd.
Mailing Address - Line 2	
Mailing City	La Joya
Mailing Zip Code	78560

1.2 School District

School District name	La Joya ISD
Mailing Address - Line 1	200 W. Expressway 83
Mailing Address - Line 2	
Mailing City	La Joya
Mailing Zip Code	78560

1.3 Education Service Center Region	01
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1.4 Person Completing this Application

First Name	Jose Luis
Initial	
Last Name	Morin
Title	Academy Director
Phone	(956) 580-5100
Email	j.morin2@lajoyaisd.net

1.5 Academy Principal/Director

First Name	Jose Luis
Initial	
Last Name	Morin
Title	Academy Director
Phone	(956) 580-5100
Email	j.morin2@lajoyaisd.net

1.6 Superintendent

First Name	Dr. Alda T.
Initial	
Last Name	Benavides
Phone	(956) 580-5000
Email	a.benavides@lajoyaisd.net

1.7 T-STEM Academy Partner Information

IHE Partner	South Texas College
STEM Business Community Industry Partner	Mario Lizcano

1.8 Authorized School District or Charter Official

First Name	Dr. Alda T.
Initial	
Last Name	Benavides
Title	Superintendent
Phone	(956) 580-5000
Email	a.benavides@lajoyaisd.net
Signature	(Attached)

PART 2: BACKGROUND

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

No

2.1 First year of Academy Operation

0

2.2 Years in Operation

0

2.3 Academy Model:

What is the design of the T-STEM Academy requesting designation?

School Within a School - A subset of students enrolled in grades 9-12 are enrolled in the T-STEM Academy

2.4 Target Population

Grades of students to be served	6th	7th	8th	9th	10th	11th	12th	Total Enrollment
2016-2017 projected enrollment	0	0	0	64	95	0	0	159
2015-2016 enrollment (if designated in the 2015-2016 school year)	0	0	0	0	0	0	0	0

PART 3: BENCHMARKS

T-STEM Blueprint Instructions

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

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

Benchmarks 1-4, 6 & 7

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

Benchmark 5: Curriculum, Instruction, and Assessment

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

Benchmark 1: Mission-Driven Leadership

Program Requirements

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

Key Elements for Success

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

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

Benchmark 1: Mission-Driven Leadership

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

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

La Joya High School T-STEM Academy teachers have a common planning period embedded into the master schedule where data-driven decisions are made to increase student achievement. Meetings are used for teachers to analyze, review and discuss common assessments, district benchmarks, grades, attendance, discipline and individual student performance and plan interventions. Teachers identify strengths and weaknesses of individual students and plan accordingly to address individual needs.

During these meetings academy teachers will also discuss how to effectively integrate T-STEM learning and best practices in the classroom. Time will be used to design strategies that are aligned to standards, assessments and objectives to impact curriculum and instruction. Lesson plans will be aligned to expose students to real world experiences through Cross-Curricular Project Based Learning (PBL). Students will be expected to complete a Capstone Project related to the field of study and world need during their Senior year. Teachers will guide students in selecting a research question and completing the Capstone Project. Findings will be evaluated by administrators, business partners and Academy teachers to score presentation, research, findings and recommendations.

In order to promote the use of data, decision making, and program review to drive the design of the T-STEM designation, the following routines will be implemented:

- Pre and post-test to show student academic growth
- Conference with individual students on assessment data, benchmarks, and grades
- Analyze DMAC results for math and science benchmarks and E.O.C.
- A 3-week reporting exam to assess student achievement
- Identify a target objective to spiral into upcoming 3 week period
- Collaborate with other Academy Teachers to align instruction
- PBL Projects
- Capstone Project - Senior Year

Data will be gathered to create a 90 day action plan to help students improve performance in their areas of need. Academy Counselor and Director will meet with individual students and parents who are in need of assistance to determine ways to narrow the learning gap.

- 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.

Advisory Board Members

Member

Title

Roles & Responsibilities

Dr. Alda T. Benavides

Superintendent of Schools

Provides guidance in all facets of school programs such as curriculum, personnel, budgeting, and ultimately authorizing approval to set initiatives.

Dr. Gisela Saenz

Assistant Superintendent for Curriculum and Instruction

Provide district resources to help develop academies in the area of Curriculum & Instruction.

Alfredo Vela

Assistant Superintendent for Finance

Provide district financial resources to support development of academies.

Gloria Rodriguez

Executive Director for Human Resources

Assist in teacher recruitment and ensure teachers are highly qualified.

Dr. Shirley Reed

South Texas College President

Has authority over the Institute of Higher Education programs and availability.

Sandra Villarreal

Gifted and Talented Coordinator

Provides support and updates on College Board's Advanced Placement instructional program requirements to include compliance with course audits, dual enrollment, and professional development focused on STEM.

Dr. Anyisia Trevino

Executive Director for Secondary Education

Provide support in the development of academy master schedule & sequence of courses.

Myriam Tellez

District Guidance & Counseling/Academies Director

Provide support in the development of academy four year graduation plan & course articulation

Ruben Trevino

Career Technology Education Director

Provides support in identifying CTE courses that best support career goals for students within the academy. Supports students in earning industry certifications.

Ernesto Villarreal

College First Executive Director

Provides training and support in transforming teaching and learning for 21st Century Skills & Building Community and Business Partnerships

Jose Luis Morin

Academy Director

Meets with Design Team members to establish goals and direction for the academy.

Mr. Jose Eloy Salinas

Parent Representative

Provides parent input on designing the academy

The Advisory Board will provide the academy recommendations and suggestions needed for school and student success. They are assisting in achieving school goals as well as supporting and promoting T-STEM educational initiatives within the school and community. The Advisory Board will meet twice a year and provide written reports of their meetings to stakeholders. The Advisory Board will provide opportunities to community business partners to share their expertise to enhance our curriculum and ensure students are college and career ready.

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

La Joya High School T-STEM Academy will empower students to think critically, reflectively, and apply their knowledge and skills to a greater context. La Joya High School T-STEM students will experience unique opportunities through T-STEM education with rigorous and relevant hands on investigations through project-based instruction, highly integrated curriculum and relationships with technical and business partners.

- 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

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.
	<i>And meets criteria from Developing</i>	<i>And meets criteria from Developing and Implementing</i>	<i>And meets criteria from Developing, Implementing, and Mature</i>

Texas Science, Technology Engineering and Mathematics

Benchmark 2: T-STEM Academy Culture and Design**Program Requirement: 2.1 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 6 th – 12 th student that addresses STEM pathways, THECB College and Career Readiness Standards.	3. Student, counselor, and family regularly review and revise the IGP to address student goals for courses, grades, Endorsements, Performance Acknowledgements, college entrance exams, PSAT/ACT/SAT, career aspirations, etc.	3. Annually reviews and revises IGP according to previously established protocols and timelines.	3. Mentors are assigned to students to develop intervention contracts to address deficiencies or acceleration opportunities in IGP.
	<i>And meets criteria from Developing</i>	<i>And meets criteria from Developing and Implementing</i>	<i>And meets criteria from Developing, Implementing, and Mature</i>

Texas Science, Technology Engineering and Mathematics

Benchmark 2: T-STEM Academy Culture and Design**Program Requirement: 2.2 Culture**

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

Example Artifacts

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

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

Benchmark 2: T-STEM Academy Culture and Design

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

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

La Joya High School T-STEM Academy will support students' individualized learning experience with a daily 20-minute advisory period during 1st period. During the advisory period students will participate in T-STEM related activities and lessons that will create awareness of T-STEM careers. La Joya High School T-STEM Academy will develop a positive culture through student recognitions such as but not limited to induction ceremonies, good-life celebrations, awards, and educational field trips. The campus will enhance relationship with parents by inviting them to community guest speaker presentations. In addition, we will keep parents informed through parent meetings, newsletters and our district website. Student surveys will be done at the end of each semester in order to better serve our students. Through surveys, students will have an opportunity to voice their concerns and provide us with ideas on how we can better serve them based on their needs and interests. Furthermore, academy student ambassadors will reach out to feeder school students to assist in recruiting new T-STEM Academy members. Potential applicants will hear from the students as well as the staff. T-STEM Academy Student Ambassadors will share their academy experiences and benefits of being a T-STEM Academy Student. In addition we promote an open line of communication and T-STEM Academy Student Ambassadors will have opportunities to express student concerns and needs directly with academy counselor and academy director during planning meetings.

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.

Students who have been selected to be in the La Joya High School T-STEM Academy will meet with the Academy Counselor to develop their IGP. During the students' advisory period they will receive lessons from the counselor on college readiness skills and career pathways. All students will participate in T-STEM career and college exploration activities through My Region I career plan. Parents will be informed of the career and college exploration and college readiness preparation through parent meetings. The T-STEM Academy will partner with available institutes of higher education to offer college course work. Students will be encouraged to enroll in Advanced Placement, Dual Enrollment classes, and concurrent enrollment courses through South Texas College (STC) and UTRGV, which will allow our students to fulfill 12 to 30 college hours. At the end of each semester the Academy Counselor will meet with individual students to review earned credits and ensure appropriate course sequence is being followed. The IGP developed will be a six year plan to include 4 years of high school and 2 years of post-secondary education. Collaboration with IHE will be constant to review student earned hours and ensure smooth transition between high school and college. All students at La Joya High School T-STEM Academy will graduate with a STEM endorsement and have multiple opportunities to earn additional endorsements.

- 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.

To have a Mature Professional Learning Community for the success of all students, La Joya High School T-STEM Academy has established the use of data-driven instruction, a common professional planning period, professional sharing, and empowerment of community through job externships in T-STEM fields, small learning communities, and rigorous project-based learning opportunities.

PLC's are integral part of La Joya High School T-STEM Academy. Teachers have a common planning period and meet daily to plan together, collaborate, and share ideas to improve student performance. Academy Teachers have been trained on PLC through DuFour Model. Teachers evaluate their planning practices through PLC protocols established by DuFour and DuFour. The Common Instructional Framework structures are used in lesson design and delivery.

Teachers will ensure students make use of all available technology through lessons that engage students in research skills, extended learning, and rigorous and relevant learning in all content areas. Teachers will be provided with professional development that focuses on T-STEM and Project Based Learning (PBL) learning. T-STEM students are expected to effectively use management software, appropriate search engines, e-mail applications, internet applications, access word-processing, database, and computer-based equipment. T-STEM long-term goals will apply knowledge and skills in the application, design, and production of technology.

T-STEM academy teachers will share and model effective research based strategies with colleagues and plan inquiry-based learning lessons. During planning meetings, teachers will discuss which strategies have proven to be successful and adopt as school-wide practices to address the needs of all students.

Texas Science, Technology Engineering and Mathematics

Benchmark 3: Student Outreach, Recruitment, and Retention**Program Requirement: 3.1 Recruitment and 3.2 Open Access**

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

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

Texas Science, Technology Engineering and Mathematics

Benchmark 3: Student Outreach, Recruitment, and Retention**Program Requirement: 3.3 Student Support and Retention**

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

Example Artifacts

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

Benchmark 3: Student Outreach, Recruitment, and Retention

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

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

La Joya High School T-STEM Academy s open-access admission policy affording all students the opportunity to apply. During the recruitment process, Academy Student Ambassadors promote the benefits of being a part of the T-STEM Academy. Student Ambassadors present information about the academy to students from our feeder schools, which include elementary and middle school students. To support Academy Student Ambassadors' understanding of T-STEM, they will host a T-STEM project-based activity to feeder schools which will promote and engage interest in our academy. After attending the presentation given by the Academy Director, Academy Counselor and Academy Ambassadors, the potential applicants will receive an application in which La Joya High School T-STEM Academy will be one of their options. Students who apply will be selected through a lottery system where other Academy Directors from La Joya ISD will be present. Applicants who have been selected will be notified by mail with an acceptance letter. Campus staff will create a parent brochure, monthly calendar, and timeline of events to keep all stakeholders informed. Additionally, staff will post updates on social media pages to showcase Academy events and activities through the district public relations departments.

- 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).

La Joya High School Stem Academy will track and improve the progress for retention through a variety of activities such as student incentives, community service programs, summer internships, field trips, HESTEC UTRGV competitions, certification opportunities, and offering college credit. Our T-STEM Academy school curriculum introduces young students to relevant and fulfilling science, technology, engineering, and mathematics content through integrated of exploration and career experiences. T-STEM Academy will allow the students to select their own personal projects based on interest and real world need. T-STEM academy personnel will guide and mentor students about their project selection. The administration and staff will provide an academic unique Project Based Learning school experience that will lead to a selection of a Capstone Project during their senior year. Incoming freshmen will attend an orientation session during the spring semester to showcase the course offerings of the Academy. During the summer, the students will be required to be a part of a two week Summer Bridge Program to model students' leadership and collaborative skills. La Joya High School T-STEM Academy will also host after school parent/student seminars to educate them about the benefits of college and career readiness. In addition, students will participate in educational field trips to different institutions of higher education and various T-STEM business partners. An intervention plan to maintain student participation in the program is facilitated by academy teachers conferencing with students and parents, if further interventions or assistance is needed the academy counselor and director will intervene to assure that every student meets the goals of the program.

Benchmark 4: Teacher Selection, Development, and Retention

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

Key Elements for Success

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

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

Benchmark 4: Teacher Selection, Development, and Retention

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

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

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

La Joya High School T-STEM Academy will select qualified teachers with composite certifications in Math, Science, English, and Social Studies and will make an effort to hire teachers with Master s Degrees and offer a stipend to teachers with a Masters Degree in math and science. The district will provide ongoing staff development, externship opportunities through RGV lead, and summer school job opportunities. Staff development will be focused on Project Based Learning and STEM instructional practices. All academy teachers will have a common planning period which will be used to meet with their Professional Learning Communities to address student needs. Teachers will have a smaller teacher-student ratio and a common planning period. All new teachers will be provided with a mentor teacher in order to address instructional and organizational needs within the academy provide guidance and support.

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

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 tiers of math, science, and 12-30 college credit hours (dual credit/AP/IB)
- HS Endorsements available to Academy students

La Joya High School T-STEM Academy curriculum, instruction, and assessment will be given an emphasis on Science, Technology, Engineering and Math. T-STEM elective coursework will provide skills, knowledge, and hands on development in the career pathway. The delivery of innovative curricular programs related to science, technology, engineering, and math will be well defined and aligned to state standards. The Academy scope and sequence will demonstrate vertical alignment of content areas to state standards and college and career readiness standards. Common assessments will be embedded through out the curriculum and provide timely feedback on gaps in student comprehension within the TEKS. The Academy will develop a plan for accelerating student achievement, particularly of low income and underserved students in math and science. Students who are not on track to graduate on time will be enrolled in a Credit Acceleration Lab to be caught up and graduate with their endorsements to keep students from lagging behind. This lab will be offered to students during school time, after school, Saturdays, and throughout the summer months. Academy Professional Learning Community will meet during common planning times to derive plans for students in need of acceleration or intervention.

Students will take 4 tiers of math, science, social studies, and English throughout their high school careers. Students that are part of T-STEM will go through a pathway in fine arts to earn their endorsement while concurrently completing 12-30 college credit hours. Dual enrollment classes will be provided in English III and IV, Government, Engineering Design & Presentation, Advanced Engineering Design & Presentation, for a total of 21 college credit hours but not limited to other afterschool dual enrollment courses. Parents and students will continuously be reminded of the expectation of completing their college hours.

The T-STEM Academy will ensure the success of all students by providing the necessary support in a timely manner.

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.	Developing			
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.	Developing			
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.).	Developing			

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

La Joya High School T-STEM Academy will develop a plan for creating a committee with math, science, technology teachers, professional employees in the STEM field, and institutions of higher education that will assist our academy students with their internships.

Students will be in STEM electives throughout their four years of high school. These electives will include:

- Concepts of Engineering & Technology
- Engineering Design & Presentation
- Advanced Engineering Design & Presentation
- Principles of Arts, Audio, Visual technology and Communication
- Audio/Visual production
- Animation
- Graphic Design and Illustration
- Advanced Audio/Video production
- Advanced Animation
- Advanced Graphic Design and Illustration
- Practicum in Audio/Video production
- Practicum in Animation
- Practicum in Graphic Design and Illustration

Student outcomes and project-based assessments will be aligned to state and industry standards and will support college and career readiness while also fostering critical thinking skills, and promoting community change.

Academy students will graduate college and career ready by taking a pathway in rigorous courses offered through dual and concurrent enrollment.

STEM students will be involved in U.I.L competitions involving events in calculators, mathematics, number sense, biology, chemistry, physics, and computer applications.

In addition, Academy students will be required to complete internships in the STEM field, Capstone Project and a STEM portfolio as part of the academy requirements.

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.	Developing			
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.	Developing			
5.3.F.	Provides opportunities for students to exercise choice and voice within a relevant and rigorous context.	Developing			

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

The classes' instruction will be driven by data from state assessments, benchmarks, and content based learning exams. Teacher responsibility and accountability is shared by utilizing tools and strategies to refine instruction. Teachers adhere and implement Project Based Learning into the curriculum. Each content and elective teacher who is part of the academy integrates PBL projects into their regular instruction. Teachers provide opportunities for student voice and choice using high quality materials that are strictly aligned with state standards.

Academy Teacher (PLC) shared responsibility and accountability will be developed through the implementation of the Short Cycle program. This program will be composed of the following tools in each of the Academy Curriculum Teams: mapping tools, Short Cycle Assessments, Common Assessments, and Power Standards. This data will be gathered in a database management system (DMAC) that will allow students, teachers, and parents to progress monitor mastery of standards. The Academy will use the Texas State Board of Education defined targets for proficiency and nearing proficiency for standards. The analysis of these standards will be done with the collaboration of the Professional Learning Community. Another strategy for assuring high quality instruction and rigor is to require teachers to use a set of shared practices. Teachers will train and plan together to understand and effectively use tools and strategies to review assessment results and refine instruction. Teachers will use an aligned scope and sequence to coordinate the integration of various content areas and aligned resources and will use highly effective curricular materials.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.4

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

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

5.4. STEM Education Integration

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

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

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

The campus will give students multiple opportunities to apply their knowledge of STEM simultaneously integrating the teaching of science, technology, engineering, and math that challenges students to innovate and invent. The coursework will require T-STEM students to demonstrate their understanding of these areas in real-world contexts. The classes will expose students to problem-solving and critical thinking scenarios. Students will be expected to complete a Capstone Project related to the field of study and world need during their Senior year. Teachers will guide students in selecting a research question and completing the Capstone Project. Using soft skills, students will present or defend their learning to external experts while collaborating with business partners. Teachers and students will utilize modern technology to enhance real-world problem solutions that demonstrate PBLs and Capstone projects. Findings will be evaluated by administrators, business partners and Academy teachers to score presentation, research, findings and recommendations.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.5

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

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

5.5. Literacy

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

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

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

Academy teachers will ensure that all Academy students are highly competent in 21st century skills which will ensure their success in their future careers. Academy teachers believe that in order for all students to be successful in the 21st century, they must be avid readers, writers, accomplished speakers, and fluent in technology. The Academy will consistently advocate the use of scientifically literate strategies by insuring that students:

- Know and understand the scientific concepts and processes required for participation in society
- Ask, find or determine answers to questions derived from curiosity about their world
- Describe, explain, and predict natural phenomena
- Read with understanding science articles in the popular press and engage in social conversation about the validity of the conclusions
- Identify scientific issues underlying national and local decisions
- Express positions that are scientifically and technologically informed
- Evaluate the quality of scientific information on the basis of its source and the methods used to generate it
- Pose and evaluate arguments based on evidence and apply conclusions from such arguments appropriately

Technology will be widely available for all students that are part of the academy.

- Academy students will have access to media resources that will aid them with acquiring technology skills needed to succeed in the STEM field.
- Daily use TI-inspire cx calculator receive an electronic file of six spiral warm up questions/iPad assessments immediate feedback online textbook account with full access to chapter resources
- Research papers through English
- BIM class
- PowerPoint presentations & publisher
- Sheltered-instruction use laptop for research & iPads

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.6

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

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

5.6 Assessments

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

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

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

Students will regularly have a diagnostic of the standards they have met and ones they still need to meet with formative and summative assessments. Instruction and assessments will be aligned with state, college and career readiness, and industry standards while implementing T-STEM program requirements. Teachers and students will use common assessments, benchmarks and EOC assessments to measure the students' progress and address the gap between standards and students needs. Teachers use Skyward Access to track students' attendance and classroom grades. The use of DMAC will also be used to keep track of benchmark and state assessment results to make data driven decisions. Understanding of T-STEM concepts will be reflected with performance hand-on based assessments on their projects.

Short Cycle Program will use:

I. Curriculum Mapping Tools: a scope and sequence of the content's Power Standards for each course. This tool will help provide the pacing guide for lesson delivery.

II. Short Cycle Assessments: a formative quarterly assessment (DMAC) that students will take and determine the percentage of the entire student body's mastery of performance standards. Strategies Intervention strategies will provide re-learning opportunities for "Nearly Proficient" will be provided.

III. Common Assessments: this is a weekly or bi-weekly formative assessment that is common to all students in a course. This evaluates the mastery of the entire grade level on the shorter number of specific Texas performance standards and will provide real time data on students' progress.

IV. Power Standards: Curriculum Teams (PLC) will work together to create the vertical alignment in each content area throughout the 9 to 12 grades. All the Texas Standards (TEKS) will be taught however, those that need to addressed and emphasized will be identified as Power Standards.

Another tool to measure students' knowledge is to give each student a pre-assessment associated with each content unit. This pre-test will determine the placement and appropriated content that students need to encounter in each unit. Those that they are weakest in can be identified as Power Standards. The system will then administer a post-assessment to ensure mastery of all elements in the unit. Common assessments will be given in the same format and same level of rigor as the grade level STAAR test. Students will be assessed as on their project based learning units using performance rubrics and portfolios.

Benchmark 6: Strategic Alliances

Program Requirements

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

Benchmark 6: Strategic Alliances

- Review the program requirements for Benchmark 6 above.

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

La Joya High School T-STEM Academy will develop partnerships with higher learning institutions in the community to support a college readiness culture. Academy students will have the opportunity to visit different universities and colleges that offer degrees in science, math, technology, and engineering.

The Academy will secure community business partnerships to provide opportunities for students to learn fundamental skills by shadowing professionals in the T-STEM field.

Internships and externships with community business partners will be provided to Academy students as well as teachers to expand our professional network.

The Academy will develop relationships with parents by inviting them to professional guest speaker presentations and will keep them up to date with information about the Academy through parent meetings and newsletters.

In addition, the Academy will set up an advisory committee with parents, business partners, higher education instructors, academy teachers, academy counselor, and the academy director. The purpose of this committee will be to gain inside knowledge on what tools are being used in careers in the T-STEM field. Through this collaborative effort our teachers will make improvements to the curriculum, instruction, and assessment needs to better serve and prepare students for 21st Century Learning Skills and Industry Certifications.

Benchmark 7: Assurances

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

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

[View Document](#)

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

☒ Assurance Provided

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

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

☒ Assurance Provided

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

☒ Assurance Provided

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

☒ Assurance Provided