Application for T-STEM Designation - New/Provisional

2016-2017

Contents

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

Overview of Designation

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

Benefits of Designation

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

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

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

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

Strength of T-STEM Model:

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

Questions about Completing the Application

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

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

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 requried 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	University of Texas Tyler Innovation Academy Longview
County District Campus Number	212804102
Mailing Address - Line 1	3201 North Eastman Rd
Mailing Address - Line 2	
Mailing City	Longview
Mailing Zip Code	75705

1.2 School District

School District name	University of Texas at Tyler Innovation Academy
Mailing Address - Line 1	3900 University Blvd
Mailing Address - Line 2	
Mailing City	Tyler
Mailing Zip Code	75799

1.3 Education Service Center Region

07

1.4 Person Completing this Application

First Name	Michael
Initial	
Last Name	Odell
Title	Dr.
Phone	(903) 566-7132
Email	modell@uttyler.edu

1.5 Academy Principal/Director

First Name	Rachel
Initial	
Last Name	Hawkins
Title	Director
Phone	(903) 663-8219
Email	rhawkins@uttyler.edu

1.6 Superintendent

First Name	Jo Ann
Initial	
Last Name	Simmons
Phone	(903) 705-4330
Email	josimmons@uttyler.edu

1.7 T-STEM Academy Partner Information

IHE Partner	University of Texas at Tyler
STEM Business Community Industry Partner	Russell and Sons Construction

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1.8 Authorized School District or Charter Official

First Name	Jo Ann
Initial	
Last Name	Simmons
Title	Superintendent
Phone	(903) 705-4330
Email	josimmons@uttyler.edu
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 2014

2.2 Years in Operation 1

2.3 Academy Model:
What is the design of the T-STEM Academy requesting designation? Stand-Alone Academy - All students on the campus 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	20	20	20	20	20	0	0	100
2015-2016 enrollment (if designated in the 2015-2016 school year)	19	21	23	18	0	0	0	81

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. *And meets criteria from Developing*	Academy plans with regional T-STEM Center, vertical alignment teams 6th - 12th (at least quarterly), and meets with their T-STEM Coach, virtually or Face-to-Face (at least monthly). *And meets criteria from Developing and Implementing*	Academy dialogues on a regular, ongoing basis in vertical alignment teams (6th - 12th), with T-STEM Centers and Coaches, and utilizes available T-STEM resources to improve student achievement and teacher preparation. *And meets criteria from Developing, Implementing, and Mature*

Benchmark 1: Mission-Driven Leadership

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

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

The UT Tyler Innovation Academy is a University Charter School that seeks to be a role model T-STEM Academy. The Academy also serves as a UT Tyler Laboratory School for the School of Education Teacher Preparation programs including UTeach Tyler (UT Tyler Replication) and Project Lead the Way (CTE STEM). At the UT Tyler Innovation Academy Data are used to inform all decisions at all levels of the academy.

Benchmark 1.3
BM 1.3 A,
Data are used to make decisions at the district, school, classroom, and student levels. To be data driven is to collect and utilize data in decision making and this occurs in a number of areas. Data are collected to assure that students are achieving and are on track to be TSI Eligible by the 11th grade so they can enroll in university coursework. At the student level each student has an Individualized Learning Plan. This past year we have worked with our TSTEM Coach (Stotts) to refine these plans.

Teachers, Academic Coaches, and Administrators review student progress on all 4 STAAR Indexes and information is regularly communicated to students and parents. Teachers, Coaches and Administrators also utilize DMAC from ESC 7 to analyze student data on Unit Assessments, Common District Assessments, and Benchmarks to assure students are meeting all 4 Indices of the Texas Accountability System. On specific areas of weakness that are identified student artifacts are utilized to provide additional insight.

At the classroom level, each teacher has a Professional Advancement Plan that includes focused Professional Development and avenues for advancements. Teachers develop an annual portfolio that examines impact on student learning, technology integration, PBL, alignment to the T-STEM Blueprint, and College and Career Readiness Standards (CCRS). Advancement is modeled after the university faculty promotion system to create a meaningful promotion system. There are also Classroom Observations by administrators and curriculum coaches using PDAS and UTEACH/Reformed Teaching Observation Protocol (RTOP) instruments. Teachers also video tape lessons to analyze and reflect upon instruction.

At the Academy Level, the UTTIA each semester conducts a program review. The program review utilizes the T-STEM Blueprint and Rubric to determine progress at becoming a role Model T-STEM Academy and University Charter School. Teachers, coaches, and administrators each complete surveys on how well the academy is progressing on each indicator. The data are compiled and presented at the Design Team meetings as to progress. We have 2 years of data at this point in the academies development. In addition to Blueprint indicators the academy also reviews progress or status of attendance rates, mobility rates, and demographics (gender, ECD, and underrepresented populations).

At the District Level all three academies data are compiled to provide a district snapshot of progress as well. It is a district goal to be a STEM District. We updated our model to put deign teams at the local school level with representatives to the district level so that all three campuses are consistent yet have some local initiatives.

- 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.

Benchmark
1.2. A. The Academy has a design team in place that includes representatives from all stakeholder groups. These include Teachers, Administrators, School Board Representative, Coaches, Parents, University Faculty, Business, and Students. The design team serves as the Academy's Advisory and the Project Lead the Way community Partnership team.
Members Include:
Rachel Hawkins: Director
Jo Ann Simmons: Superintendent
John Lamb: School Board
Kevin Humphrey: School Board
Jaclyn Pedersen: Curriculum
Samatha Rector: Teacher
Angela Ladine: Teacher
Donna Wise: PLTW
Mark Parkerson: Ingenuity Center
Michael Odell: University
Student Council Representative
Van Patterson: Longview LUC and BEC
Michael McGinnis: Dean College of Engineering
Gloria Duke: Associate Dean: College of Nursing and Health Science
With the implementation of 9th grade we are expanding the advisory team to assure P-20 STEM outcomes including internships when additional grade levels are added.The Advisory provides input on programming including extracurricular activities, community connections, feedback from parents/students on policies and initiatives. They meet once per semester.

1.2 B. The leadership team was defined in the charter. The charter was designed around the blueprint. As a university charter we are unique in that the curriculum oversight is a function of the university and must be a full-time faculty member(s). The President of the University has designated Dr. Michael Odell as the oversight faulty. He shares this task with Dr. Wes Hickey Dean of the College of Education.

At the Academy Level there is a Director responsible for implementing the charter and T-STEM Blueprint. The District employs 4 Academic Coaches to support the academy. There are coaches for Reading/Language Arts; Mathematics; Science; PBL; and Assessment. There is a career counselor to assist students STEM pathways. Teachers have a common planning time everyday.

1.2.C. The advisory takes advantage of university connections for planning for internships and externships. There are limited internship opportunities in the business community in East Texas in the area of STEM there will be a robust internship program that will also utilize university research and development laboratories.

1.2 D. As indicated all stakeholders are represented on the advisory. All have input on the annual goals of the academy
.
1.2 E. The Academy has an approved organization structure that incorporates the input of the advisory within the confines of the T-STEM Blueprint and the Charter.

1.2 F. The Education Code for University Charter Schools and the Approved Charter define the organization structure. At the campus level The leadership team has the autonomy to make decisions to make allowances for local conditions and needs. The Campus Director works closely with their leadership team to meet the blueprint and the needs of the students.

1.2 G. The academy collects data locally to inform decisions. There is a survey system we utilize to collect data from all parents and students in addition to achievement data. Data is reviewed and utilized to make adjustments to the school plan annually or in some cases each semester.

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

Background:

When the university charter for the UT Tyler Innovation Academy was submitted to TEA in 2012 the T-STEM Blueprint was the guiding document for the educational plan. The Charter itself references the blueprint throughout. In the charter, a goal of seeking T-STEM Designation is stated once the academy admits 9th grade students. In 2015-16 school year, the academy served its first 9th grade class and next year we will add 10th graders.

When the UTTIA opened in 2012 it included grades 3-6 and we have added a new grade in each subsequent year. The academy has been following the blueprint since the doors opened. The Vision, Mission, and Philosophy of the academy is posted on our website and is included in our official documents. The current plan is to become a K-12 STEM School serving all grades (Pk-12) by 2018-19.

Vision
The UT Tyler Innovation Academy is guided by the beliefs that increasing parental involvement, increasing high level application of concepts, increasing flexibility, and increase cross-disciplinary interactions of content all lead to increased student achievement. Furthermore, we believe that the knowledge and skills acquired through project based learning are critical to success in post-secondary endeavors. Finally, we believe that online learning allows for student choice, flexibility in scheduling and more individualized instruction for each student, all of which are critical factors to student success. We believe that these approaches more closely match the training and expectations of the work place.

Mission
The UT Tyler Innovation Academy is a University Charter Laboratory School that prepares students to be STEM College Ready while developing teachers and research-based practices to improve the STEM pipeline.

Benchmark 1.1
BM 1.1 A. The Mission and Vision of the academy were developed by a team of stakeholders aligned with the T-STEM mission and vision. Once opened the mission and vision have been refined as the academy has evolved. Stakeholders include teachers, students, parents, university and community stakeholders. The Academy has an Annual Action Plan we call a Strategic Plan. We have also added a "Continuous Improvement Plan".

BM 1.1 B. The Academy develops an Annual Action Plan (AAP) which we call a Strategic Plan to better align with the terminology of the workplace. The annual action plan is developed using the District and School Continuous Improvement Plans, the Blueprint, and TEKS/CCRS. Also feedback from stakeholders is included.

- 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".

Benchmark 1.4

The Innovation Academy is an outgrowth of the work at UT Tyler that includes the T-STEM Center the Ingenuity Center. The Ingenuity Center is the largest of the T-STEM Centers and is a sustainable center. One of the reasons to develop a university charter that focused on the STEM Blueprint was to provide model sites for T-STEM Academies that could also serve to test instructional strategies and modifications to inform the network of schools. To date over 12 studies have been conducted to evaluate practice and identify promising practices for validation.

The Ingenuity Center is a member of the T-STEM Coalition and hosts the annual Project Lead the Way Conference annually.

1.4. A The Innovation Academy works with coaches from the Ingenuity Center and with our assigned TSTEM Coach Dr. Jennifer Stotts who serves as a T-STEM Academy Coach for the CFT. We have also expanded our collaborations to include UT Permian Basin which also has STEM School based on our IA model. Dr. Stotts has been invaluable in helping us with our pathways and individualized student plans. She understands our model and recognizes the innovations we are evaluating.

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1.4 B The Academy has already been participating in T-STEM Network attending the T-STEM Coalition Conferences and training such as PBL 101 and PBL Advanced. Teachers from the Innovation Academy have presented at the T-STEM Network events and assisted the Ingenuity Center in PBL and content training across the state. We send a large delegation of teachers each year to the T-STEM Conference and the PLTW Conference.

1.4 C. We will be sending a team to the T-STEM Leadership training scheduled in the Summer of 2016. Academies must be designated to attend and we are now eligible. . We have attended training and sessions provided by T-STEM Centers at UT Tyler and UT Dallas.

It should be noted that we are still a fairly small academy and our teachers teach at both the High School and Middle School levels. As we grow we will eventually be able to specialize by grade level. That said, a major advantage of teaching at both levels is vertical alignment is more natural.

Benchmark 2: T-STEM Academy Culture and Design
Program Requirement: 2.1 Personalization

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

Key Elements for Success	Example Artifacts
• Student IGPs w/ CCRS, Endorsements, and Performance Acknowledgement plans • Master schedule for advisory • Student enrollment	• Opportunities for orientation sharing and team building activities both on- and off-site • Advisory class curriculum • Student goal setting and reflection logs • Teacher mentors assigned to students • Pre- and post-assessments of advisory class goal • Students sit on advisory board and/or have voice in student work products, clubs, competitions, governance, and course offerings • School wide activities to build/share culture • Student ambassadors serving as classroom greeters and/or guide tour groups • Teacher/student ratios, actual class sizes • Surveys documenting students' elective requests

Developing	Implementing	Mature	Role Model
1. District and Academy resources are allocated to ensure teaching staff and facilities remain small.	1. Annual Action Plan and Academy handbook address plan for maintaining personalized, small, learning communities.	1. Students are regularly afforded multiple opportunities to build relationships with staff and peers such as working in academic and/or competitive teams horizontally and vertically.	1. Protocols are developed to ensure students have a clear and documented voice in the Academy (student council, advisory committee to the director, suggestion box, etc.
2. Student advisory is regularly scheduled and focuses on relationships, building school capital, developing and fostering global literacy.	2. Advisory class has written curriculum with goals, expectations, scope, sequence, and pacing guides.	2. Teachers work in teams to develop systemic advisory programs with horizontally and vertically aligned student outcomes.	2. Annual resources are allocated to develop, revise, and sustain advisory program with input from students, teachers, parents, and external partners.
	And meets criteria from Developing	*And meets criteria from Developing and Implementing*	*And meets criteria from Developing, Implementing, and Mature*

Texas Science, Technology Engineering and Mathematics

Benchmark 2: T-STEM Academy Culture and Design

Program Requirement: 2.1 Personalization

2.1.D Arranges for a flexible school day with blocks of time that support student learning (tutorials, collaboration, meetings).

2.1.E Celebrates high quality student work through student exhibits on-site, web-based, and/or in state and national forums.

2.1.F Provides every 6th – 12th student with an individualized STEM-focused high school graduation plan that addresses: four years of math and science; an Endorsement in STEM, Business and Industry, Public Service, or Arts and Humanities; identifies target areas for Performance Acknowledgements; and is at least annually reviewed and revised with the counselor, student, and family.

Example Artifacts

- Honor roll, grade level/school-wide celebrations
- Classroom and building displays
- Number of students participating in student exhibits
- Agendas/signatures for IGP meetings with students and family
- IGP, record folder/portfolio, 6th -16th course plan
- Master schedule, tutoring schedule
- Minutes/action items from site based committees, etc.
- Website showcasing student work
- Documentation of at least annual 6th – 12th IGP meetings with parents and students

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

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

2.2.A Collaborates with stakeholders to develop a new handbook or modify the existing handbook with clear procedures, policies, and consequences that support the development of a strong T-STEM culture.

2.2.B Involves all stakeholders in developing a culture of respect, responsibility, trust, and meaningful adult and peer relationships throughout the Academy in order to foster positive student identities.

2.2.C Creates a professional learning community environment of collaboration, teaming, and high expectations among administrators, teachers, and stakeholders, with a focus on and a commitment to the learning of each student.

Example Artifacts

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

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

Benchmark 2: T-STEM Academy Culture and Design

- 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.

Creating a University-going culture is an essential element of a STEM Academy. Students need to be STEM College Ready which means they must be prepared to enroll in Calculus as college freshman or earlier. It is also essential that students be prepared to enroll in STEM Dual Credit courses that can actually be applied to a STEM Major. We want to make sure that students take the correct courses that lead to STEM Degrees. This was paramount in our design to develop the culture at the academy.

Benchmark 2.1
BM 2.1 A The Charter and the Strategic Plan as well as the school business plan were designed with the blueprint in mind. The Innovation Academy Charter is charted at 100 students per grade maximum. We also have a student ratio in the charter of 20:1.

BM.2.1 B All students in all grades have an advisory period every day. The advisory is designed to work on academic planning, academic skills, soft skills etc. The advisory allows for personalization and allows students to interact with each other and staff.

BM.2.1 C. In addition to having a voice on the design team/advisory board students are provided with a number of mechanisms to have a voice in the academy and even in the classroom. As part of PBL students have the opportunity to complete projects of their own design based upon the entry documents and scenarios provided, Students are also regularly surveyed to have input on outside of class activities and in developing service learning projects. There is also a formal option for students to address concerns they have with classmates and or staff.

2.1 D. The Innovation Academy was designed with a flexible day in mind. Students attend from 7:55-2:15 each day. That said to meet the new state law we will be extending the day to 3:15 or 3:25 pending evaluation. They also have 'flipped' assignments they complete at home so that the instructional day can be used for discussion and activities. Students also have the opportunity to accelerate their learning by taking online electives through Odysseyware. Classes are designed for PBL and are of sufficient length when flipped assignments are taken into consideration for students to collaborate.

2.1 E. At the end of each PBL students present their products to a panel of experts. Student work is also displayed on campus for everyone to celebrate .

2.1 F. Students are provided with an Individual Graduation Plan that is STEM focused. The innovation Academy will offer the STEM Pathway with 2 initial options that include Computer Science and PLTW Pathway to Engineering. Each student that meets TSI will be allowed to enroll in college courses at UT Tyler . The IA is located on the UT Tyler Campus. As a University Preparation School each student will be advised on the Foundation Plan with STEM Endorsements. In the future we will offer PLTW Biomedical Science.

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.

Benchmark 2.3

2.3 A: As indicated the Innovation Academy was designed with the Blue Print in mind. All students are currently engaged in STEM activities. We utilize the PLTW Gateway to Technology and Launch to provide STEM Career awareness. We provide students with a career and academic counselor who advises students on how to prepare and plan for STEM Majors. Students are already being exposed to the economic work clusters in Texas. UT Tyler is heavily engaged through its professional colleges in preparing individuals for careers in energy, engineering biotechnology, computer science and health care. In the Junior and Senior Years students will have the opportunity to participate in university R&D in the labs at the university for a hands-on
experience in an internship.

2.3. B Each student will be given the TSI assessment or equivalent to gauge college readiness and develop acceleration plans for students to maximize the college credit earning opportunities the academy provides. In 2015-16 9th graders were tested on TSI. Out of 80 9th graders 31 passed. 28 enrolled in College classes.

2.3. C: In addition to providing a college and career counselor all students and families have access and will receive workshops from University Admissions and Financial Aid regardless of whether they attend UT Tyler or another institution upon graduation. We provide financial planning assistance, FAFSA assistance, and scholarship assistance. Teachers and Parents will be provided with the Career and College Readiness standards training and we are developing a resource page for our website specifically focused on College and Career Readiness. This will include links to TEA and THECB CCRS websites.

2.3 D. The Innovation Academy is designed to be small. As such the Middle and High School grades are in the same building. Because many 8th graders are working to accelerate there will be some cases such as Algebra where students will be in the same classes. Because we are a University Charter School and housed on the UT Tyler Campus dual credit options are a given and middle school students are expected to be in Algebra in 8th grade. The middle school students also share the same counselors and in some cases teachers.

2.3 E. Each Middle School Student is expected to be in Algebra in 8th grade. At the Tyler Innovation Academy over 25% of
students in 8th grade enrolled in Algebra. We work with students each summer to accelerate the students and we believe we can increase these numbers over time. In addition students have opportunities for high school credits in 8th grade. All students receive 1 HS credit for completing the GTT program in Middle School.

2.3 F Each student is expected to graduate with 12-30 credits of college credit through UT Tyler. We will also provide the correct STEM courses so they count towards a STEM Major. We want to be sure and maximize their opportunity for a STEM degree. This area is also outlined in our charter.

- 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.

Benchmark 2.2

BM 2,2 A The Innovation Academy handbook was developed in collaboration with the Design Team/Advisory. We also examined handbooks from other STEM Academies to provide insight as we developed our own handbook. This was done in collaboration with the district and the other two UT Tyler Innovation Academy design Teams. The Ingenuity Center also provided guidance on the Blueprint and the Charter. The result is student handbook that lays out a foundation for the culture we are trying to develop that prepares students to transition from Middle School to High School to University. Each year we examine the handbooks and make appropriate changes based on data and new regulations from TEA.

BM. 2,2 B The design team was also involved in the development of school norms similar to how New Tech Network Schools develop school norms to assure a culture of collaboration and respect. Students identify not only with the academy but with the university. They are UT Tyler Students as well.

BM 2,2 C As mentioned previously all teachers and administrators have a common planning/professional develop time. This occurs daily from 2:30-4:00. Some days are set aside for planning, reviewing data, and other activities. However one day each week is set aside for professional development utilizing the Professional Learning Community model. In 2013-14, Dr. Jennifer Stotts a t_STEM Coach provided input and training on how to structure the PLC and provided resources for utilization. The culture of the school is based on collaboration at all levels. This school year we have focused PLC Efforts on better use of data to inform instruction. Not only do we collaborate within our academy, but we also collaborate in a larger PLC that includes the other UT Tyler Innovation Academy Campuses. Those campuses have the same schedule and we are able to collaborate via Zoom video conference so that teachers can collaborate by discipline as well as grade due to the small size of each of our campuses. We also utilize Google tools to collaborate with one another as well. The University is also involved in our PLC as well as future teachers that intern in our classes. Over the last 3 years we have seen significant growth in achievement each year by our students.

The Innovation Academy was the second highest performing district in Gregg County. Our goal is to be the highest performing School and District in each county we serve.

Texas Science, Technology Engineering and Mathematics

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

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

Key Elements for Success	Example Artifacts
• Written admission policy and application with lottery explained	• Recruitment schedule and locations (schools, churches, community centers, etc.) • Brochures and marketing items in English, Spanish, and/or relevant second language • Survey data (community input, enrollment trends, etc.) • STEM feeder school crosswalk recruiting curriculum • Plan to recruit with feeder schools • Documented support efforts (transportation, child care, etc.) • Needs assessment • Number and percentage of students matriculating from middle school STEM to high school STEM

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

Texas Science, Technology Engineering and Mathematics

Benchmark 3: Student Outreach, Recruitment, and Retention

Program Requirement: 3.3 Student Support and Retention

3.3.A Develops and implements systemic, tiered strategies for student support and retention (outreach, early intervention strategies, mentoring, tutoring, counseling, and other supports for academic and socio-emotional growth).

3.3.B Hosts 5th – 6th and 8th – 9th orientation session(s) and summer bridge program(s) to facilitate successful student transitions and retention into a STEM-focused, college preparatory, project-based learning environment.

3.3.C Provides all students with opportunities and the expectation to assume roles of responsibility within the classroom, Academy, and community.

3.3.D Supports and monitors 6th – 12th student participation in STEM activities both within and outside the classroom to ensure that all students engage in STEM clubs, STEM competitions, and STEM field experiences.

3.3.E Hosts parent seminars to develop deep understanding and commitment to the rigor of college readiness and the high expectations of a STEM Academy.

Example Artifacts

- Student, parent, staff contracts
- Student retention and persistence plan
- Orientation and bridge agendas
- Exit interviews
- IGPs Minutes from persistence meetings, retention/attrition data
- Program adjustments due to student and community voice
- Copies of trainings and participation of parents/community
- Satisfaction/interest surveys from students, parents, community, staff, etc.
- Lists of clubs, service learning projects, STEM activities, STEM field experiences, and planned competitions

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

Benchmark 3: Student Outreach, Recruitment, and Retention

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

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

BM 3.1 A. The Innovation Academy is an open enrollment charter. We are seeking a whole school STEM designation.All students at the Academy would become a member of the STEM designated academy. The only students not allowed to enter by guidelines within our TEA approved charter are those who have severe discipline problems. Each Spring we market our academy through television, radio, movie trailers, and our website with an emphasis on STEM and PBL models. We are able to accept students into our academy from many different surrounding school districts. In order to recruit economically disadvantaged students, we provide after school programs designed to allow students to complete their homework and participate in enrichment activities they might not receive at home. Enrichment activities include robotics and their associated competitions, academic rodeos, karate, cooking, coding, programming, and more. Economically disadvantaged students can apply for scholarships for the after school programs to participate for free. All students are provided with the technical devices at no charge.

BM 3.1 B. The Innovation Academy holds monthly town hall meetings to communicate with families, develop student interest and inform the community of the advantages of being a part of our academy. These meetings are advertised on our website and anyone is welcome to attend. In addition each spring we host a "Buddy Day" and encourage our students to bring one of their friend to shadow them for the day.

BM 3.1 C. As students apply for enrollment within our academy, we meet each candidate and their parents to inform them about our program, the rigor, and expectations for students desiring to attend our STEM academy. We feel it is important for parents and students to understand the opportunities and differences in becoming part of a STEM academy. Consultations are provided by the school director and counselor.

BM 3.2 A. The Innovation Academy has free and open access as a TEA charter. By law our charter conducts a lottery each year for all applicants. During the first week of April, we conduct a lottery of all applicants who wish to become a part of the academy. Once all open positions are filled, remaining applicants are put on a waiting list of first come, first served basis. Our charter starts with the 3rd grade and all students who remain enrolled are automatically served by the STEM middle and high school. Approval of applications are not based on state assessment scores, teacher recommendation, minimum GPA or any other requirement. It is our desire to serve every child in the community that wants to be a part of a quality STEM program.

BM 3.2 B. The Innovation Academy student population is composed of an aggregate of 43 % girls, 18% Economically disadvantaged, 23% African American, Hispanic or other, which brings the aggregate total over 50% for underrepresented groups. We are working to increase our diversity including girls and underrepresented minorities in STEM. We have adapted our marketing to better recruit students.

- 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).

BM 3.3 A. The Innovation Academy has developed process to identify students at risk by use of DMAC for data disaggregation. The school regularly breaks down each students grades and achievements. Students at risk are assigned to extended day tutorials administered by their teachers. In addition, identified students may also get additional intervention if they elect to stay with the after-school program each day. Each Director looks at the grades of each student every three weeks to catch students early in the grading period. Strategies and interventions for each particular student is addressed with both the teacher and the students parents. In that the Innovation academy uses a PBL model, stress is placed on 21st century soft skills. The instruction for 21st century skills allow students to grow and interact socially.

BM 3.3 B. The Innovation Academy hosts town hall meeting to inform parents of upcoming events. Within many of the town hall meetings are breakout opportunities to orient parents to possibilities for advancement. Students and parents are both encouraged to attend our annual two day summer camp to facilitate introduction into the academy. In addition, the academy offers up to six weeks of summer school programming culminating with a one week bridge camp.

BM 3.3 C. The Innovation Academy will provide students the opportunities to assume roles of responsibility such as Ambassadors for the school, and voice in new offerings and programs. We adopted PLTW Computer Science based on interest of students.

BM 3.3 D. All students will be allowed access to any purposeful school sponsored activities such as field trips, college visits, visits to other STEM academies, robotics competitions and academic rodeos. This school year we are participating in UIL Academic competitions, Vex Robotics, GLOBE Science Fair, PLTW Design Challenge, and some club-based competitions. Students were also given field trips to local STEM events and to College Campuses for Engineering Week, Students will also have the opportunity to participate in Maker Fair.

BM 3.3 E. The Innovation Academy currently hosts town hall meetings. Many of the discussions are centered around rigor, college readiness and the expectations of the STEM academy. In addition each parent is encouraged to meet with the school director and counselor prior to enrolling in the academy. Parents and students get an opportunity to tour the school. This year's meetings have focused on Dual Credit and improving facilities for STEM. This has resulted in a large donation for STEM Lab renovation, new robotics kits, and a planned renovation of the STEM lab at the academy.

Benchmark 4: Teacher Selection, Development, and Retention

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

Key Elements for Success

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

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

Benchmark 4: Teacher Selection, Development, and Retention

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

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

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

Benchmark 4

The Innovation Academy recruits highly qualified teachers. Teachers are certified and highly qualified. We also knowthere are few teachers that have experience with PBL. We have developed known pools of excellence to recruit teachers such as the UTeach Replication Programs that are preparing STEM teachers across Texas. We have also designed a hiring process that goes beyond applications and interviews. Each candidate sends a vita versus a resume along with a letter and application. Candidates also prepare a video of them teaching a lesson for the committee to view. Successful candidates are then invited to a Skype interview and ultimately a live interview. On our campus we have a committee that works in collaboration with the Curriculum, Instruction, and Assessment (CIA) department to make a hiring recommendation to the Superintendent.

The Innovation Academy also offers a competitive benefits and compensation package that is based on a university advancement model. East Texas is a diverse area of Texas. There are a large number of economically disadvantaged families and considerable ethnic diversity. As part of the interview process teachers are required to discuss how they help students that are ECD, 504, Special Ed, ELL, etc. Teachers once hired are also provided professional development in strategies to close achievement gaps and provide support
to students. We ask a lot from our teachers but we provide numerous supports. Classroom teachers provide instruction to students both face-to-face through project-based learning and online.

The teacher will be supported by a teacher leader, Innovation Academy Central Office Administrators, Ingenuity Center Professional Development Specialists, and university faculty. The classroom teacher participates in daily teaming and project development with
all teachers at the campus as well as teachers at other campuses using distance technologies. The classroom teacher is responsible for curriculum development, lesson planning, communication and outreach, classroom management, integrating multiple technologies, collaborating with colleagues, and integrating STEM disciplines. Teachers are expected to participate in graduate level work, and those teachers not currently holding masters degree will be expected to be enrolled in a program as part of the compensation package.

Currently, hiring committees consist of administrators, teachers, and university personnel. As high school is implemented we will add student and stakeholder members. Like a university where there are Assistant Professors, Associate Professors, and Professors we have a career pathway that includes the rank of Teacher, Master Teacher, and Teacher Leader. Each of these ranks when earned is accompanied by a significant pay increase. The goal is to recreate the university advancement and retain teachers. Teachers also are required to Earn a Masters degree which is an employee benefit at UT Tyler and spouses and children can attend UT Tyler for a reduced amount. These processes and benefits have allowed us to recruit great teachers who are willing to try new methods with extensive content backgrounds. We have had minimal turnover in teachers as a result of our procedures and supports. Teachers also develop an annual portfolio that demonstrates their effectiveness.

This model works.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.1

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

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

5.1 Rigor

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

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

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

The UT Tyler Innovation Academy Charter was specific to ultimately applying to be a STEM Academy has allowed us to address many of the Benchmarks over the last 4 years. After our first year of operation it was apparent that our PBL process needed more rigor. As a result the district convened teachers, university experts, content coaches, and administrators to do a self-study on all elements of the school curriculum. The result was the development of a new scope and sequence that was not only better aligned to the TEKS but to the STAAR assessment as well. Data indicate that the last two years we have seen significant increases in students achievement. Once the new Scope and Sequence was released teachers met with coaches to begin designing Projects. In the area of mathematics it was determined to modify the instruction to be more Problem-focused (PrBL) versus Project-focused (PBL) . That said Math is included in projects in other disciplines PBL Projects when appropriate.

We also revised our Benchmark Assessments and Common District Assessments. All teachers receive intensive training on using DMAC to analyze student success. Currently, each teacher and director know the status of every student in regards to accountability and whether they are on track to be ready for Dual Credit courses offered in the Freshman Year (New Law allows 9th Grade) year. ninth graders were tested with the TSI and those that qualified enrolled in an online class from UTPB. UT Tyler Dual Credit was not approved for 9th graders but will be available Fall 2016.

An intervention plan was implemented to accelerate all students with the goal of meeting Phase III accountability standards and College Readiness. We anticipate increases to our Index 4 ratings this year as a result of our interventions. Benchmarks indicate we are on track to increase Index 4 scores.

All students will be expected to complete the Foundation Graduation Plan with at least one STEM Endorsement. We will only offer the STEM Endorsement with areas including Engineering, Compeer Science, and ultimately Bio-medical Sciences. We are required to offer the Multidisciplinary endorsement but it will also be STEM focused due to the STEM electives that will be available to students. Most students will leave with both the STEM and Multidisciplinary Endorsement. All students will have 4 years of Math, Science, and STEM through PLTW.

In the summers students will also be able to accelerate by taking online courses outside of STEM through OdysseyWare and Dual Credit Course opportunities.
.
At the middle school level we are working to accelerate students to be in Algebra in 8th Grade and are exploring other High School Credits that can be earned in 8th grade to make room for more dual credit courses in high school. In Fall of 2016 we plan to offer all 9th grade courses to qualified 8th grade students,

Because the Innovation Academy is on the UT Tyler Campus, students have the added advantage of being immersed in a university setting.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.2

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

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

The innovation academy has well-defined programs that are aligned with the TEKS and CCRS. To address industry standards we have adopted Project Lead the Way to assure relevance and rigor.
"
STEM Electives:
At the Middle School Level grades 6-8 students complete PLTW Gateway to Technology. "Gateway provides engineering and biomedical science curriculum for middle school students that challenges, inspires, and offers schools variety and flexibility. Students get rigorous and relevant experiences through activity-, project-, and problem-based learning. They use industry-leading technology to solve problems while gaining skills in communication, collaboration, critical-thinking, and creativity (PLTW Website)." Students will complete 3 GTT modules at each grade. Students in 7th and 8th grade earn a High School Credit for completing their modules.

At the High School Level students will complete a STEM Pathway. Initially we will offer Pathway to Engineering and also PLTW
Computer Science. As we grow we will add PLTW Biomedical Sciences. PTE and BMS are both CTE endorsements.

From the PLTW Website:
PLTW Engineering is more than just another high school engineering program. It is about applying science, technology, engineering, and math to solve complex, open-ended problems in a real-world context. Students focus on the process of defining and solving a problem, not on getting the answer. They learn how to apply STEM knowledge, skills, and habits of mind to make the world a better place through innovation. Through hands-on projects, students explore various engineering disciplines before beginning post-secondary education or careers.

PLTW Biomedical Science is a rigorous and relevant four-course sequence that allows students to play the roles of biomedical
professionals as they investigate and study the concepts of human medicine, physiology, genetics, microbiology, and public health.

Students examine the structures and interactions of human body systems and explore the prevention, diagnosis, and treatment of disease, all while working collaboratively to understand and design solutions to the most pressing health challenges of today and the
future.

PLTW Computer Science engages high school students in computational thinking and gets them excited about the possibilities in careers that use computing. As students explore topics like cybersecurity, big data, and artificial intelligence, they see how computing applies in various career fields. Students use professional programing languages to create their own apps, integrate technologies across devices and platforms, develop models and run simulations to communicate ideas in the sciences, and
collaborate on software solutions to real-world problems.

Assessments: All students will complete performance and project-based assessments in all classes as part of Discipline-based
PBL or PLTW. In addition PLTW has just developed a partnership with STEM Premier to provide all PLTW Students with electronic portfolios so they can market their STEM abilities.

Extracurricular STEM
We already have developed Vex Robotics Teams and and UIL Academic teams at the MS and High School Level. Students will also have the opportunity to participate in UIL Academic competitions and develop their own clubs based on interest.

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.	*Mature*			
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.	*Mature*			
5.3.D.	Ensures teachers' use of the aligned scope and sequence and integration across the disciplines.	*Mature*			
5.3.E.	Ensures teachers' use of high-quality curricular materials aligned with state and national standards, college and career readiness standards, and industry standards.	*Implementing*			
5.3.F.	Provides opportunities for students to exercise choice and voice within a relevant and rigorous context.	*Implementing*			

5.3 Instructional Practices

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

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

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

The Innovation Academy has a well developed data program. All teachers are trained in how to use DMAC. DMAC provides a suite of web-based tools developed at the Region 7 ESC. The applications provided by DMAC provide tools and services necessary to develop and improve the quality of education provided to students through data dis-aggregation; analysis of local assessments; student achievement and progress monitoring; and creating curriculum maps. Teachers meet weekly to discuss data and student outcomes as part of their weekly PLC and planning sessions. Teachers use student artifacts and the critical friends process to improve outcomes.

Artifacts include assignments, projects, benchmark exams, common district assessments and teacher assessments. All teachers annually receive intensive professional development around curriculum, instruction, and assessment (CIA). New teachers to the district receive an additional week of training devoted to PBL and Assessment strategies used at the academy. Teachers work in teams to develop projects. We have also been working to improve our workshops and critical friends processes with teachers and students. Teachers work in collaborative teams and sometime co-teach with coaches to improve PBL instruction and achievement outcomes. Teachers also meet in interdisciplinary teams to enhance each project with complementary material and areas where concepts and skills can be reinforced. An example would be writing skills.

As previously discussed, the academy has spent considerable time and effort creating a scope and sequence that aligns to the TEKS, CCRS, and state assessments. The sequence has been developed to facilitate acceleration and be timely to develop cross disciplinary projects such as PLTW and Mathematics. We recognize that industry standards are constantly changing so we focus on STEM concepts and skills that are transferable. That said we have provided after school opportunities for students to receive industry certifications for computers. ninth graders will use our soon to be renovated STEM Lab to work on computer repair. IPAD applications and other relevant activities. We also have adopted Chromebooks which will allow students to access and utilize a PC environment.

Students have voice and can exercise choice with the PBL environment that has been implemented at the school. Students are allowed to design their own projects and are encouraged to be innovative. As students progress, they learn to rely less on teachers and more on their teams to solve problems. They also develop the soft skills to be successful in the work place.

Students who are TSI eligible had the option of enrolling in college courses. This provides additional choice beyond the high school curriculum.

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.	*Mature*			
5.4.B.	Exposes students to critical readings in STEM-related fields and requires students to demonstrate their understanding of STEM disciplines in a work-based, contextual environment.	*Implementing*			
5.4.C.	Offers standards-based STEM programs that incorporate integrative STEM literacy and innovative instructional tools.	*Implementing*			
5.4.D.	Promotes applied and collaborative learning, and provides students with opportunities to present/defend their work to peers, community, industry, and university leaders.	*Mature*			
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.	*Mature*			

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

Most of the projects that are used in the Innovation Academy allow students to critically think and apply knowledge to a relevant situation. Many of our PBL's also provide students with the opportunity to use STEM knowledge in a global and socio-historical framework. For example one project that teachers have implemented in the district and at the academies are utilizing GLOBE NASA data to conduct semester long research projects. These projects will be judged and the top projects will be submitted for competition at the GLOBE Regional Science Fair in Houston. This is an NSF funded project. for middle and high school students.

The GLOBE projects are individualized by teams but students must interact with STEM professional and NASA databases to complete their projects. Students identify a topic in the area of climate change, atmosphere, soils, and biosphere. Topics are aligned with the scope and sequence to assure TEKS coverage.

As a team, the students work to assist in developing recommendations based on their findings and discuss impact. Teams are asked to develop specific recommendations for future research and any impacts on humans, if applicable. The projects and plans developed by the student teams are all different but a rubric guides the assessment. Students will present their projects to a panel of experts from the
university using appropriate technologies. The top two middle school projects and top two high school projects will be entered into the GLOBE Science Fair in Houston.

The Innovation Academy provides all students with their own device. We are also a Bring Your Own Device (BYOD) school. Students in the elementary grades receive IPADS, Middle School Grades receive Mac Books, and beginning in 9th grade students receive Chromebooks. We want all students to be literate in multiple technology platforms.Students also have access through PLTW to 3-D printers, probe ware, and a host of other technologies.

Being on a university campus also provides students with access to STEM equipment not available at most high schools. Teachers at the Innovation Academy have access to all of the devices that students have access. In addition they have access to all of the equipment and resources of the Ingenuity Center at UT Tyler. They also can reserve university classrooms and labs on special occasions.

The Longview campus received a generous donation from a stakeholder to upgrade the STEM lab. This has resulted in a number of new additions to the lab.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.5

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

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

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

In 2013 the innovation academy hired coaches in the areas of Reading/ELA, Science, Mathematics, PBL, and Assessment. These coaches have proven to be very effective in assisting teachers to develop plans and strategies to help students. Teachers attend regularly scheduled technology training. As new technologies are developed the academy has representatives at the district level to examine the value added of adopting new technologies and applications. As a result our ELA Scores improved dramatically.

Students who graduate from the Innovation Academy will have developed 21st Century Skills as assessed by a rubric developed at the district level in collaboration with the university. These skills are aligned with Texas and Partnership for 21st Century Skills reports,
As previously described, the STEM Endorsement as defined by the Project Lead the Way Pathway to Engineering Program is our initial STEM area along with PLTW Computer Science (electives). We will eventually add PLTW Bio-medical Sciences once we have more students.

PLTW Engineering is more than just another high school engineering program. It is about applying science, technology, engineering, and math to solve complex, open-ended problems in a real-world context. Students focus on the process of defining and solving a problem, not on getting the answer. They learn how to apply STEM knowledge, skills, and habits of mind to make the world a better place through innovation. Through hands-on projects, students explore various engineering disciplines before beginning post-secondary education or careers.

PLTW Computer Science engages high school students in computational thinking and gets them excited about the possibilities in careers that use computing. As students explore topics like cybersecurity, big data, and artificial intelligence, they see how computing applies in various career fields. Students use professional programming languages to create their own apps, integrate technologies across devices and platforms, develop models and run simulations to communicate ideas in the sciences, and collaborate on software solutions to real-world problems

The Innovation Academy has worked very hard at the middle school level to accelerate students to read on grade-level or higher. We have implemented Leveled Reading Strategies and we have been able to reduce the number of students reading below grade level down to less than 12%. We have added additional writing strategies that address STEM Technical writing with our ELA courses and eventually adding a technical writing course at the dual credit level (English 1302).

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.6

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

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

5.6 Assessments

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

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

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

The Innovation Academy utilizes a robust assessment plan. Assessments are aligned with the Scope and Sequence, curriculum, and state assessments. Teachers utilize DMAC to analyze qualitative data. Rubrics are utilized to assess projects, 21st century skills, and qualitative data. We also use Haiku to provide standards-based reports. At the beginning of each project students are given a pre-assessment. This is done to anticipate the need for workshops in the PBL model. DMAC is used by teachers to analyze summative assessments, benchmark and common district assessments. 80% of grades at the innovation academy is based on summative assessments. We believe that formative assessment are there to inform and diagnose instruction. Students may not perform well on a formative assignment and we don't want to punish students for learning. Students are also provided with their own data so they can see where they need to improve and where they are strong. We also enhance this process through the critical friends element of PBL.

As far as tracking and communicating performance, student academic performance is tracked in the following ways:
- Daily progress reports generated by the online system (Haiku).
- 9-week Academic Report Cards compiled by teachers
- Curriculum based assessments that are used with each unit to determine mastery and assign interventions and remediation

Teachers also evaluate students performance on the Cross-Disciplinary Standards of the College and Career Readiness Standards associated with each PBL unit. Each project associated with the PBL units requires student presentations and be monitored using PBL rubrics portfolios. These tools capture the long-term growth of the student in areas not usually tested using standardized tests. These include communication, collaboration, and the use of technology, just to name a few.

Performance Assessments will be implemented so students can demonstrate they truly understand the concepts they are being taught. In the areas of computer science for example students would have to actually create and debug a program to show true understanding. In the area of technical writing students would have to create a manual to show how to put together a product. If another student could actually put the product together based on the manual then that skill would be demonstrated,

Benchmark 6: Strategic Alliances

Program Requirements

6.2.A.	Identifies and secures key business, industry, and community partners to support STEM Academy efforts (mentorships, service learning projects, etc.).
6.2.C.	Identifies and secures key business and industry partners to provide STEM-related job shadowing, internships, and externships for students and teachers.
6.3.A	Develops a Memorandum of Understanding (MOU) for dual credit.
6.3.C	Develops partnerships to support a college going culture and to provide STEM graduates access to college support services (college trips, college entrance aid, GEAR UP and P-20 initiatives).
6.1.B	Provides opportunities to educate students/parents on STEM Academy expectations such as parental engagement, college connections, scholarship opportunities, mentorships, etc.

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

Benchmark 6: Strategic Alliances

- Review the program requirements for Benchmark 6 above.

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

BM 6.1 A. The Innovation academy currently conducts town hall meetings with parents to communicate information and to solicit concerns within the parental community. The campus also has a strong teacher/parent alliance that facilitates extra curricular activities.

BM 6.1 B. The Innovation academy hosts a two day summer camp in which all parents and students are invited to attend. At the camp the parents are educated on STEM expectations, sessions about software products that we use, navigating the technical devices, and accessing our grading system. Town hall meeting inform parents of potential college connections, scholarship opportunities and parental engagement opportunities.

BM 6.1 C. The Innovation academy communicates with parents in multiple ways. All events are posted on our website. The monthly town hall meetings allow for many types of dialogues and discussions and allow our parents to stay up to date. The campus also produces an electronic bimonthly newsletter to communicate events and information to parents. The academy uses an alert now system within their software to communicate immediate information. We are rethinking our website at the advice of our coach and will unveil a new website in April. Teachers have one period set aside each week to allow open access to all parents.

BM 6.1 D. Before implementing new programs the Innovation Academy polls all parents and students that describe various scenarios that are being considered within a program. Input from parents and students is important part of the decision making process prior to implementing anything new. Once new programs are implemented, town hall meetings are again held to inform parents and to allow final input. Parents also serve on the campus improvement team and SHAC committee. Parents are encouraged to visit the campus prior to enrollment to meet with the Director and campus counselor to discuss expectations and strategies for high student performance.

BM 6.2 A. The Innovation academy has secured important and highly involved relationship with the University of Texas at Tyler, The Ingenuity Center and the Discovery Science Place museum. The Ingenuity Center conducts Professional Development in PBL and STEM fields. The University of Texas at Tyler provides Dual Credit support and Graduate level classes for teachers and staff. The Discovery Science Place museum provides opportunities for internships, competitions, and service learning projects.

BM 6.2 B The Innovation Academy has annual action plan that is revised yearly with involvement with our partners

BM 6.2 C. The Discovery Science Place allows students to job shadow and intern for both students and teachers

BM 6.3 A. The UTEACH program at the University of Texas at Tyler assures us of quality math and science teachers

BM 6.3 B. Our presence on the University of Texas at Tyler's campus allows us to have a meaningful interaction with a Higher Education entity. Currently the curriculum is developed by the university. when students enter 11th grade they will placed in labs on campus.

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