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	West High School
County District Campus Number	161916001
Mailing Address - Line 1	406 W Shook St
Mailing Address - Line 2	
Mailing City	West
Mailing Zip Code	76691

1.2 School District

School District name	West ISD
Mailing Address - Line 1	801 N Reagan St
Mailing Address - Line 2	
Mailing City	West
Mailing Zip Code	76691

1.3 Education Service Center Region

12

1.4 Person Completing this Application

First Name	Don
Initial	
Last Name	Snook
Title	Principal
Phone	(254) 981-2050
Email	dsnook@westisd.net

1.5 Academy Principal/Director

First Name	Don
Initial	
Last Name	Snook
Title	Principal
Phone	(254) 981-2050
Email	dsnook@westisd.net

1.6 Superintendent

First Name	David
Initial	
Last Name	Truitt
Phone	(254) 981-2000
Email	dtruitt@westisd.net

1.7 T-STEM Academy Partner Information

IHE Partner	McLennon County College
STEM Business Community Industry Partner	The University of Texas at Tyler

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1.8 Authorized School District or Charter Official

First Name	David
Initial	
Last Name	Truitt
Title	Superintendent
Phone	(254) 981-2000
Email	dtruitt@westisd.net
Signature	(Attached)

PART 2: BACKGROUND

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

No

2.1 First year of Academy Operation

2016

2.2 Years in Operation

0

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

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

2.4 Target Population

Grades of students to be served	6th	7th	8th	9th	10th	11th	12th	Total Enrollment
2016-2017 projected enrollment	113	94	100	100	118	99	124	748
2015-2016 enrollment (if designated in the 2015-2016 school year)	0	0	0	0	0	0	0	0

PART 3: BENCHMARKS

T-STEM Blueprint Instructions

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

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

Benchmarks 1-4, 6 & 7
Applicants should first review the program requirements for each benchmark presented in the body of the application. The questions that follow pertain to those specific requirements (i.e. Benchmark 1 questions pertain to Benchmark 1 program requirements). Applicant responses should reflect a close consideration of the highlighted rubric areas in the context of what the campus has in place currently and could feasibly implement during the first designated year. Applications will be scored on the response's evident understanding of the continuum of growth along the rubric, evidence of existing programs, and feasible plan to move forward for each requirement.

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

Benchmark 1: Mission-Driven Leadership

Program Requirements

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

Key Elements for Success

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

	Developing	Implementing	Mature	Role Model
1.2.C.	Advisory Board (AB) established.	AB positions and subcommittees are identified.	AB develops innovative and creative approaches to support Academy mission and vision.	AB addresses major shifts in STEM, educational standards, industry expectations, and analyzes SWOT of Academy, resulting in measurable action items.
1.3.A.	Little or no evidence of data-driven and mission-driven decision making.	Data is used to design student interventions, Annual Action Plan (AAP), and to inform teaching and learning aligned to the mission.	Teachers work interdependently as teams to review data across content areas, develop targeted interventions, and develop common formative assessments.	The Academy's continual analysis of results for improvement is critical to the school's system of interventions and culture of celebration.
1.4.A.	Academy leadership occasionally collaborates with each other (6th - 12th), with T-STEM centers, and T-STEM Coaches.	Academy leaders and staff collaborate with each other (6th - 12th), and with T-STEM Centers and Coaches to integrate STEM teacher preparation, teaching, and learning. *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.

West High School and West Middle School are public, open enrollment comprehensive schools that seek T-STEM Academy designation. At West Middle School and High School, data is used to inform all decisions at all levels of the school.

Benchmark 1.3
BM 1.3 A,
Data is used to make decisions at the district, school, classroom, and student levels. West Middle School and High School collect and utilize data from a variety of sources. Data is collected to ensure students are achieving and are on track to be TSI Eligible, so they can enroll in dual credit coursework. At the student level, each student has an Individualized Graduation Plan. Teachers, Instructional Coaches, Counselors, and Administrators review student progress on all 4 STAAR Indeces and information is regularly communicated to students and parents. Teachers, Coaches, Counselors, and Administrators also utilize Eduphoria data disaggregation and Schoology Learning Objective Mastery to analyze student data on daily assignments, projects, unit assessments, Common District Assessments, and Benchmarks to assure students are meeting all 4 Indeces of the Texas Accountability System.

Beginning in the 2016-2017 school year, each teacher will be required to maintain a portfolio to show professional development activities that align with their assignment. These portfolios will highlight student learning activities, technology integration, PBL, T-STEM blueprint alignment, as well as activities to support College and Career Readiness Standards (CCRS). Classroom observations are conducted by campus administrators, as well as faculty learning walks, to showcase innovative best practices. These walks allow faculty to observe promising practices they can replicate in their classrooms, while also maintaining a critical friend model of improvement. Collaboration and common planning are encouraged.

At the campus level, the advisory board will meet to conduct semi-annual reviews. The program review utilizes the T-STEM
Blueprint and Rubric to determine progress of becoming a role Model T-STEM Academy. Teachers, coaches, and administrators each complete surveys on how well the academy is progressing on each indicator. The data is compiled and presented at the Advisory Board meetings as to progress. At this point, we have established a baseline for the data and hope to see improvements as we progress. In addition to Blueprint indicators, the campus also reviews progress or status of attendance rates, mobility rates, and demographics (gender, ECD, and underrepresented populations). Trojan Payday is used to increase attendance and positive behaviors, while special education students are supported through an Inclusion model for exposure to STEM areas. New course offerings are the result of student interest surveys, with the master schedule being driven by student needs.

At the District Level, data from both campuses is compiled to provide a district snapshot of progress as well. It is a district goal to become STEM focused and is also included as a board goal for the superintendent.

- 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
1.2. A. The schools have an advisory board in place that includes representatives from all stakeholder groups. These include Teachers, Administrators, School Board Representative, Coaches, Parents, University Faculty, Business, and Students.
Members Include:
Don Snook: Principal
David Truitt: Superintendent
John Crowder: School Board
Larry Sparks: School Board
Amanda Adams: Curriculum
Frances Karels: Teacher
Krisann Kent: Teacher
Kimberly Woodard: Teacher
Alison Janek: Counselor
Tanya Snook: PLTW
David Woodard: Athletic Director
Mark Parkerson: Ingenuity Center
Michael Odell: University of Texas at Tyler
Londa Carriveau: McLennan County College
Michele Scott: West Middle School Principal
Student Council Representatives
Jenipher Janek: Parent

We will be expanding the advisory team to assure P-20 STEM outcomes including internships for our students.
The advisory board provides input on programming including extracurricular activities, community connections, feedback from parents/students on policies and initiatives. They meet once per semester.

The advisory board takes advantage of college and university connections for planning for internships and externships. There are limited internship opportunities in the business community in West, thus necessitating collaboration in the neighboring communities of Waco and Hillsboro.

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

The West Independent School District, with children as its first priority, strives to provide a safe, rigorous, stimulating academic environment in which students find both challenge and support to exceed state and federal standards while acquiring skills to make life long choices.

A specific mission for the academy is being developed by the advisory board for the 16-17 school year.

- 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".

1.4.A West High School is currently led by Don Snook, former principal of Waxahachie Global High School, a nationally recognized STEM academy, and has a former STEM liaison from the UT Tyler Ingenuity Center on staff. These staff members have assisted in the STEM program development with blueprint alignment. Mr. Snook has implemented structured PLCs, structured book studies, and critical friends protocols to support STEM best practices and blueprint fidelity.

1.4 B Staff members of West High School and West Middle School have presented at the T-STEM conferences and assisted the Ingenuity Center in PBL and content training across the state. The school completed a book study in “Thinking Through Project Based Learning” and utilized critical friends protocols in project development. The school will continue doing two book studies annually while building capacity during structured PLC time.

The administrative team from Middle School (grades 6-8) and High School (grades 9-12) meet biweekly. During these meetings, we plan coherent sequences to develop STEM studies for all students. Each campus conducts PLC meetings on campus to increase instructional awareness of STEM teaching practices (Project Based Learning and Problem Based Learning). While the middle school and high school are stand-alone facilities, we do share a common building, allowing for teachers to plan together and observe each other in the classroom. During the 2015-2016 school year, engineering courses through Project Lead the Way were started at the Middle School campus, and in the 2016-2017 school year, the High School will offer an Engineering strand and Biomedical strand through Project Lead The Way to allow those students to continue their programs while also allowing recruitment at the upper levels. Technology strands have been redesigned for continuity and career alignment. Our elementary school will be reinforcing STEM best practices with project based learning and adding the PLTW Launch curriculum for all students.

Texas Science, Technology Engineering and Mathematics

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

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

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

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

Texas Science, Technology Engineering and Mathematics

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

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

Example Artifacts

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

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

Texas Science, Technology Engineering and Mathematics

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

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

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

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

Example Artifacts

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

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

Benchmark 2: T-STEM Academy Culture and Design

- 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.

BM.2.1 B The Middle School has a daily advisory class in the afternoon labeled "Red Zone". During Red Zone, teachers work with their students on reading skills, study skills, and soft skills to assist them in being successful. This is also a time where students can learn STEM skills such as robotics, programming, and science inquiry. Advisory functions occur in the core classroom at the high school, with curriculum provided by our school counselors to assist with college preparation, study skills and soft skills needed for post-secondary success.

BM.2.1 C During the 2015-2016 school year, a Teen School board was implemented to respond to student voice at grades 6-12. Each grade level has two representatives that meet with the Superintendent to suggest improvements or to discuss issues relevant to the students. These designees are known by their peers and receive input from the student body prior to the meeting. As part of PBL, students have the opportunity to complete projects of their own design based upon the entry documents and scenarios provided, and they are also surveyed at the end of projects to give input on future modifications or improvements to the protocols. Students are also regularly surveyed to have input on outside of class activities and in developing service learning projects and these surveys have resulted in new class offerings for the next school year (including dual credit coursework). The master schedule is built for student convenience rather than teacher convenience, and class offerings have been retired that students are no longer interested in.

2.1 D Students are given the opportunity to accelerate their learning allowing them to be on course for Calculus as a senior. Red Zone also gives an opportunity for students to not only receive intervention assistance but also can enhance their learning through service learning opportunities. At the high school, there is flexible scheduling to allow students to work as lab aides or to go to the elementary rooms to work with teachers on STEM projects. This is critical to building capacity with our students.

2.1 F. Each student will be provided with an Individual Graduation Plan that highlights STEM offerings to correspond with STEM electives offered at West Middle School. West High School will offer the STEM Pathway with 2 initial options that include PLTW Biomedical Engineering and PLTW Pathway to Engineering. Additionally, pathways are provided for technology offerings in a coherent sequence as well as animal science. Each student that meets TSI will be allowed to enroll in dual credit courses offered at West High School. In the future, we hope to offer to offer dual credit computer science pathway. Parent meetings are held multiple times throughout the year to receive input, as well as provide educational pieces for course selection and explanation of endorsements. We have also implemented parent newsletters, as well as social media outlets to enhance the parent relationship.

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.

Creating a University-going culture is an essential element of a STEM Academy. We are concerned that being College-Ready is not enough. Students need to be STEM College Ready which means they must be prepared to enroll in Calculus as college freshman or earlier through our dual credit program. 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, so we now offer only dual credit Biology for majors. This philosophical change was made to enhance the opportunities for all of our students. By changing the class, students who do not pursue the STEM majors are still exposed to STEM science, and those choosing a STEM degree have a science credit that will transfer for their major. This was paramount in our design to develop the culture of the school. Dual credit offerings have been enhanced with additional course work available to the students to prepare them to be core-complete upon graduation from high school. In addition, a school wide LMS has been established to expose students to an online platform similar to Blackboard. Our students will have the soft skills, as well as the academic skills to be successful at University.

BM 2.2 A The West High School handbook is being rewritten with input from the Advisory Board. Members were also provided an opportunity during the 2014-2015 school year to visit Waxahachie Global High School to see a STEM High School that has been very successful and is nationally recognized. In addition, the former principal of WGHS is now the current principal of WHS. We are examining handbooks from STEM Academies to provide insight as we rewrite our own handbook. This is being done with full support of the district. The end result will be a student handbook that lays out a foundation for the culture we are trying to develop that prepares students to transition from Elementary School to Middle School to High School to University.

BM. 2.2 B The advisory board is also involved in the development of school norms to assure a culture of collaboration and respect. A student pledge has been developed that will be said daily. A culture of success is evident in actions and words.

- 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.

BM 2,2 C As mentioned previously all core teachers and administrators have PLC time scheduled in the day. Each day has a different focus: Monday is book study, Tuesday is technology integration focus, Wednesday is learning walks, Thursday is differention, and Friday is team choice. These times are sacred and are honored by all (including district leadership). Teacher learning is managed on our LMS (Schoology), so teachers are given the opportunity to see the platform in the eyes of the students. Because the PLC is structured by subject area, the LMS allows other teacher teams to still collaborate and learn from each other. The LMS is also a repository of best practices, project ideas, and allows for discussion through the discussion board. The LMS extends critical friends and is a place for collaboration with all. PLC time allows for RtI concerns and data discussions to occur.

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. West High School is an open-enrollment, public, comprehensive school. We are seeking a whole school STEM designation. The only students not allowed to enter by guidelines are those who have severe discipline problems. We are marketing our school through newspaper, social media and our website with an emphasis on STEM and PBL models. We are examining the use of a billboard on I-35. We are able to accept students into our school from many different surrounding school districts. This school year, we have 35 high school and 30 middle school transfer students. In order to recruit and aid economically disadvantaged students, we provide after school programs designed to allow students to participate in enrichment activities they might not receive at home. Enrichment activities include TSA at the high school and middle school level, robotics and their associated competitions, athletics, engineering clubs, community service clubs, leadership activities, and other academic clubs. The engineering computer lab is available for all students to use every morning and after school until 5. Activities are offered for minimal cost with waivers available for economically disadvantaged students.

BM 3.1 B. The school holds multiple parent and community meetings to increase communication. These meetings are communicated via phone messenger, social media, website, email, and newspaper notices. Surveys are utilized with parents, students, and staff to illicit input and ideas. In addition, we allow prospective students to shadow a current student to experience school culture prior to enrolling. The end of year district showcase will allow community members to see innovative student work at the school.

BM 3.1 C. As students apply for enrollment within our school, we meet each candidate and their parents to inform them about our program, the rigor, and expectations for students desiring to attend our STEM school. We feel it is important for parents and students to understand the opportunities available, as well as the expectations of STEM instruction prior to enrollment. These meetings help parents and students make informed choices which in turn aids in retention. Consultations are provided by the school principal and counselor.

BM 3.2 A. West High School has free and open access as an open enrollment public school. We accept new students at any time during the school year; however we encourage students to wait until semester for enrollment due to dual credit coursework. Approval of applications are not based on state assessment scores, teacher recommendation, minimum GPA or any other requirement with the exception of not accepting those with severe discipline problems per TEA guidelines for transfer students. Those with minimal discipline problems are accepted. 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 West ISD student population is composed 18.4% Hispanic students, 45.4% economically disadvantaged and 34.5% at-risk. We have 35.2% CTE students, 4.4% gifted and talented, and 5.6% special education 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. West Middle School and High School utilize Renaisssance Star Universal Screener and diagnostic tests to identify students at risk, while using unit benchmarks and mastery. The school regularly breaks down each students grades and achievements. Students at risk are assigned to intervention periods during the day administered by their teachers. In addition, identified students may also get additional intervention if they elect to stay after-school each day. Principals, counselors, and academic teams examine 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 student's parents. Because West ISD uses the Ingenuity Center STEM PBL model, stress is placed on 21st century soft skills. The instruction for 21st century skills allow students to grow and interact socially, while preparing them for advanced coursework.

BM 3.3 B. West High School hosts meetings to inform parents of upcoming events. These meetings explain elective tracts, dual credit opportunities, as well as opportunities for advancement. Students and parents are both encouraged to attend our annual day camp to orient students to 6th grade and 9th grade. In addition, a one week TSI camp is held each summer to prepare students for TSI testing. Successful completion of the TSI tests allows students to participate in dual credit course work. For parents and students who cannot make these meetings, weekly parent newsletter are sent out via email and multiple methods of communication are utilized (i.e. social media, email blasts, phone blasts, etc).

BM 3.3 C. West High School provides students the opportunities to assume roles of responsibility such as Ambassadors for the school, Teen School Board, Student Council and voice in new offerings and programs.

BM 3.3 D. All students will be allowed access to any purposeful school sponsored activities such as field trips, college visits, Technology Students Association competitions, robotics competitions, and academic UIL events.

BM 3.3 E. West High School currently hosts parent meetings. Many of the discussions are centered around rigor, college readiness, and the expectations of the STEM program. In addition, each parent is encouraged to meet with the school principal and counselor prior to enrolling in the school. Parents and students get an opportunity to tour the school. Meetings are centered around explanation of school rigor, college preparation, and expectations of both parents and students.

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).

West ISD recruits and hires highly qualified teachers. All teachers new to West ISD are enrolled in our Mentoring Program. The goal of the mentor program is to help our teachers become leaders, designers, and guide effective instruction. In helping teachers build capacity, we are creating a learning organization with the capacity to focus on the future, the capacity to maintain direction, and the capacity to prepare all students. West ISD's mentoring program combines campus-based and district level support to reduce attrition and enhance students achievement by providing dedicated, experienced, and growth-minded teachers. West ISD's Curriculum and Instruction department is the agent for the program. The Instructional Coaches are the facilitators for teaching and learning support and ongoing monitoring for teachers new to West ISD. Proteges are required to participate a minimum of one school year. If the mentor teacher and/or the Instructional Coach determine that additional mentoring time is appropriate, the protege may remain in the program for up to 3 years.

As previously stated, all teachers participate in structured PLC time led by our principal, Don Snook, who was previously the principal at a state and national model STEM school. On Mondays, teachers participate in a book study and learn the Ingenuity Centers STEM PBL protocols, while developing projects and reviewing in a critical friends model. On Tuesdays, teachers learn about technology integration and share strategies that have been successful. On Wednesday's, teachers conduct learning walks in their peers classrooms. Thursday is devoted to curriculum development and differentiation resources, and Fridays are times for the team to collaborate on their own. Using this format, teachers are able to find support in their groups while reflecting on best practices in their classrooms.

Teachers may also elect to attend the Texas state STEM conference and have professional development opportunities available in the summer from the Ingenuity Center.

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.	*Implementing*			
5.1.E.	Offers dual credit, articulated concurrent enrollment, AP or IB courses that all students will graduate with 12-30 college credit hours.	*Implementing*			
5.1.F.	Establishes curriculum expectations, monitoring, and accountability mechanisms that are reflectively revised to ensure a constancy of mission purpose (aligned resource allocation, integrated STEM curriculum development, teacher professional growth, and student results).	*Implementing*			

5.1 Rigor

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

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

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

When our superintendent was hired, a goal was to become a STEM-focused district. PBL models had been in place, but had not had the necessary follow up. After our first year, it was apparent that our process needed more rigor. As a result, one day of PLC time was devoted to project development. This process allow teachers to examine driving questions, supporting materials, and rubric development. The result was the development of more complete projects with the addition of problem based learning that was not only better aligned to the TEKS but to the STAAR assessment as well. District instructional coaches help with resources and differentiation in materials. In the area of mathematics, Problem-focused (PrBL) versus Project-focused (PBL) is used. Both high school and middle school use the Ingenuity Center STEM PBL model.

We also revised our Benchmark Assessments and Common District Assessments. At the high school level, assessment questions are embedded in assignments and exit tickets. Teachers receive training during the structured PLC times and data is also discussed and disaggregated weekly. Currently, each teacher, principal, and counselor 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. If a student is not on track, remediation is scheduled so they will be ready at the next enrollment period.

Students begin testing for TSI the summer prior to their freshman year. A TSI camp is conducted and students who do not pass receive remediation instruction. PSAT is offered at no cost to juniors in order to prepare them for SAT testing. At the middle school level students are nominated for the Duke Talent Search where they become eligible to take the SAT or ACT. When counselors meet with the individual student for scheduling, students prepare a post-secondary plan to include education, career, and personal goals. These goals are followed up each year and progress is determined. We anticipate increases to our Index 4 ratings this year as a result of our interventions.

All students will be expected to complete the Distinguished Graduation Plan. While we offer all the business and industry, multidisciplinary, arts and humanities, as well as the STEM endorsement, all students are encouraged to choose the STEM path. We offer the STEM Endorsement with areas including Engineering, Mathematics, Science, Biomedical Sciences, and eventually computer science. All students are encouraged to complete the four by four of math and science including Algebra II. Most students will leave with both the STEM and Multidisciplinary Endorsement. All students will have 4 years of Math and Science, with a majority completing a PLTW strand.

In the summers students will also be able to accelerate by taking online courses outside of STEM through OdysseyWare. This includes an accelerated Geometry session to increase students on track to complete Calculus their senior year.

At the middle school level we are working to accelerate students to be in Algebra in 8th Grade.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.2

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

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

5.2 STEM-Focused Curriculum

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

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

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

West High School 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 for engineering and biomedical sciences.

STEM Electives:
At the Middle School Level, grades 7-8 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 complete 2 GTT modules at each grade. 7th graders complete design and modeling and automation and robotics, while 8th graders complete medical detectives and flight and space. These units were chosen to complement the engineering and biomedical sequences offered at the high school level.

At the High School Level, students will complete a STEM Pathway. Initially, we will offer Pathway to Engineering, PLTW Biomedical Sciences, and eventually computer science. All courses will lead to a culminating senior capstone class with presentation requirements. These courses were chosen to align with CTE standards.

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

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 plan to participate in the real-world Design Challenge at the High
School Level for the next school year. This school year, we have added a TSA club at the middle school and high school, as well as VEX robotics teams at both schools. Secondary students are working with the elementary school in the development of a VEX IQ team. 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.	*Implementing*			
5.3.B.	Creates an environment for shared teacher responsibility and accountability for student learning across programs, content areas, and classrooms.	*Implementing*			
5.3.C.	Organizes instructional expectations around problem-based and project-based learning with clearly defined learning outcomes for students and teachers that address state and national performance standards, college and career readiness standards, and industry expectations.	*Implementing*			
5.3.D.	Ensures teachers' use of the aligned scope and sequence and integration across the disciplines.	*Implementing*			
5.3.E.	Ensures teachers' use of high-quality curricular materials aligned with state and national standards, college and career readiness standards, and industry standards.	*Implementing*			
5.3.F.	Provides opportunities for students to exercise choice and voice within a relevant and rigorous context.	*Implementing*			

5.3 Instructional Practices

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

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

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

West High School and West Middle School are well developed in data collection and usage. All teachers are trained in how to use Eduphoria. Eduphoria provides a data disaggregation tool utilized district wide. The applications provided by Eduphoria provide tools and services necessary to develop and improve the quality of education provided to students through data disaggregation; analysis of local assessments; student achievement and progress monitoring; and creating curriculum heat maps. Teachers 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. Schoology (our district LMS) also provide curriculum mastery analysis and alignment for assignments to assure that all objectives are covered.

All teachers annually receive intensive professional development around curriculum, instruction, and assessment (CIA). New teachers to the district receive an additional week of training for district and campus expectations. Teachers work in PLC teams to develop projects and have created a project repository on Schoology. Discussions and critiques occur with all projects, building capacity at the campus level. Teachers work in collaborative teams and perform weekly learning walks to observe promising practices from their peers. Teachers also meet with instructional coaches to enhance each project with complementary material and areas where concepts and skills can be reinforced. Our campus has a focus on writing skills, with each classroom teacher responsible for increasing technical writing abilities.

We recognize that industry standards are constantly changing so we focus on STEM concepts and skills that are transferable. Projects and assignments focus on building students skills in critical thinking and problem solving. While students have been earning industry certifications in Adobe and other software applications, we are planning to expand these offerings to appeal to more students. Our students also have access to the Texas State Technical College and are able to take dual credit coursework to prepare for industry.

Students have voice and can exercise choice with the PBL environment that has been implemented at the school. We are exploring student designed projects for the next school year. Project and problem based learning are encouraged to develop the soft skills necessary to be successful in the work place.

Benchmark 5: Curriculum, Instruction, and Assessment

Example Artifacts: 5.4

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

In Benchmark 5, all program requirements are scored individually. There are no separate metrics. Assess the level of implementation for the program requirements below according to the standards to the right.		**Developing** Investigate, Research, and Create	**Implementing** Formalize, Revise, and Publish	**Mature** Data-driven evaluation of effectiveness of program requirements	**Role Model** Continually assesses to document successes and challenges with action plans implemented to correct deficiencies in performance
5.4.A.	Promotes instructional strategies that challenge students to think critically, innovate and invent to solve real-world, contextual problems.	*Implementing*			
5.4.B.	Exposes students to critical readings in STEM-related fields and requires students to demonstrate their understanding of STEM disciplines in a work-based, contextual environment.	*Developing*			
5.4.C.	Offers standards-based STEM programs that incorporate integrative STEM literacy and innovative instructional tools.	*Mature*			
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.	*Implementing*			

5.4. STEM Education Integration

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

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

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

Most of the projects that are used at West High School 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 situations relevant to the community. For example, one project implemented found its roots in the PLTW GTT curriculum but was modified to fit the unique needs of West ISD. In April of 2013, West ISD lost three educational buildings in the fertilizer plant explosion. In the Gateway DM unit, the students were challenged to build a playground for the community to replace the one lost in the explosion. They had to incorporate elements that not only paid tribute to the Czech heritage of the community, but also honored the thirteen first responders that lost their lives that night. Students had to interview community members as well as elementary children, research building and safety codes, develop renderings in the Auto CAD software, and then build a 3D prototype. The projects were presented to upperclassmen, community members, and educators from the high school. Each design had student choice elements, but had to meet constraints presented in the rubric. Upon completion of the projects, students had to discuss lessons learned and they also critiqued each other’s designs.

West High School and West Middle School are Bring Your Own Device (BYOD) schools. Students are able to check out technology through our library, and laptop carts are available for use in all classrooms. The school provides Wi-Fi access for all students. Students need to be literate in multiple technology platforms, so usage of personal devices is encouraged. Students also have access through PLTW to 3-D printers, probe ware, wind tunnels, stress analyzers, and a host of other technologies. In our new facility (construction will be completed in May of 2016), a fully functional STEM lab will be available to all PLTW students.

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.	*Implementing*			

5.5. Literacy

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

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

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

In 2012, West ISD hired instructional coaches in the areas of Reading/ELA, Science, and Mathematics. These coaches have proven to be very effective in assisting teachers with resource development, data disaggregation, and differentiation strategies. Teachers attend weekly technology trainings that focus on technology integration in the classroom.

Students who graduate from West High School will have developed 21st Century Skills listed in the portrait of a West ISD graduate developed at the district level in collaboration with the advisory board. 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 Biomedical Sciences (electives). We hope to add a dual credit computer science pathway in the future.

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.

West Middle School has worked very hard to accelerate students to read on grade-level or higher. We have implemented Red Zone for enrichment and intervention, with intervention for students performing below grade level in reading or mathematics. We focus on writing strategies that address STEM Technical writing within all courses.

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.	*Implementing*			
5.6.C.	Employs student readiness assessments or diagnostics to identify and address gaps in learning.	*Mature*			
5.6.D.	Tracks and reports student progress using student information systems.	*Implementing*			
5.6.E.	Uses performance-based assessments that allow students to demonstrate their understandings of STEM concepts.	*Implementing*			

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

West High School and West Middle School utilizes a robust assessment plan. Assessments are aligned with the Scope and Sequence, curriculum, and state assessments. Teachers utilize Eduphoria and Schoology to analyze qualitative data. Rubrics are utilized to assess projects, 21st century skills, and qualitative data. We utilize the data reporting features in Eduphoria, Plan4Learning, and Schoology to monitor growth and progress.

At the beginning of each project students are given a pre-assessment using know and need to know strategies. This is done to anticipate the need for workshops in the PBL model. Eduphoria and Schoology is used by teachers to analyze summative assessments, benchmark and common district assessments. Formative assessment is accomplished through reflective journaling, 3-2-1 writings, quick writes, exit tickets, and quizzes. Summative assessment is accomplished through projects with rubrics and unit tests. This data is discussed in PLC meetings and is shared with all stakeholders (including students).

As far as tracking and communicating performance, student academic performance is tracked in the following ways: Daily access to real time grades, 6-week Academic Report Cards compiled by teachers, parent conferences, and curriculum based assessments that are used with each unit to determine mastery and assign interventions and remediation.

Teachers also evaluate student 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 monitoring using PBL rubrics and 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. PBL protocols are used as provided by the Ingenutiy Center for continuity with projects. Portfolios are maintained in the LMS platform (Schoology) and follow the students from 6th grade to graduation.

Performance Assessments will be implemented so students can demonstrate they truly understand the concepts they are being taught. 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 successfully.

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. West High School conducts meetings with parents to communicate information and to solicit concerns.. Parents also receive communication via weekly parent newsletters sent out by teachers, access to the LMS (Schoology), email blasts, telephone blasts, school and district websites and the community newspaper.

BM 6.1 B. West High School hosts a day camp in the summer 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 LMS, and accessing our grading system. Information is also given regarding course selection, endorsements, dual credit offerings, and STEM careers. TSI camp is also held to ensure students are prepared for the TSI test necessary for enrollment in college courses. The test is provided at no cost to the student.

BM 6.1 C. West High School communicates with parents in multiple ways. All events are posted on our website and social media pages. Teachers also produces an electronic weekly newsletter to communicate events and information to parents. The district uses an alert now system within their software to communicate immediate information via telephone and email. Teachers also utilize Remind, a third party application that allows for mass texting of messages to stakeholders.

BM 6.1 D. Before implementing new programs, West High School polls all students to ensure student consideration of issues. Input from parents and students is important part of the decision making process prior to implementing anything new. Once new programs are implemented, 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 principal and campus counselor to discuss expectations and strategies for high student performance. Transparency and clarification are important for the success of the school.

BM 6.2 A. West High School has an important and highly involved relationship with McLennan County College and the Texas State Technical College. Discussions are in place with the University of Texas at Tyler and The Ingenuity Center. The Ingenuity Center conducts Professional Development in PBL and STEM fields. McLennan County College and Texas State Technical College provides Dual Credit support for students. All students enrolled in dual credit have full access to the college.

BM 6.2 B West High School has an annual action plan that is revised yearly with involvement with our partners.

BM 6.2 C. Partners are being actively sought to provide internships for teachers and students. Currently, Baylor Scott and White has provided internship opportunities for our students. Additional organizations are being recruited for the 2016-2017 school year.

BM 6.3 A. Baylor University and the teacher certification program at McLennan County College provides quality math and science instructors.

BM 6.3 B. Our partnership with MCC and TSTC allow for meaningful experiences for our students.

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