UTPB STEM ACADEMY

T-STEM Renewal Application

2020-2021

Contents

Background

District Affiliation

UTPB STEM ACADEMY

CD #: 068803
Region: 18
Mailing Address (Line 1): 4901 E UNIVERSITY BLVD
Mailing Address (Line 2):
City, State, Zip: ODESSA, TX 79762

School Affiliation

UTPB STEM ACADEMY

CDC #: 068-803-001
Region:
Mailing Address (Line 1): 4901 E UNIVERSITY BLVD
Mailing Address (Line 2):
City, State, Zip: ODESSA, TX 79762

Academy Information

What is the academy name?

UTPB STEM Academy

Which model does the district intend to implement at this time? Within these models, there are variations.

School-Within-School: Other Grade Levels - All students enrolled in grades 6-12 or grades 9-12 are enrolled in the academy but other grade levels exist on the campus (such as grades K-5)

Grade Levels Served

What grade level(s) will your academy plan to serve in the 2020-2021 school year?

6
7
8
9
10
11
12

Enter the number of students that you plan to serve in 6th grade.

72

Enter the number of students that you plan to serve in 7th grade.

72

Enter the number of students that you plan to serve in 8th grade.

72

Enter the number of students that you plan to serve in 9th grade.

66

Enter the number of students that you plan to serve in 10th grade.

66

Enter the number of students that you plan to serve in 11th grade.

66

Enter the number of students that you plan to serve in 12th grade.

66

Contacts

Applicant

Applicant 1

Job Title

Superintendent

Name Prefix

Mrs.

First Name

Shannon

Last Name

Davidson

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Phone

432-552-2580

Principal

Principal 1

Name Prefix

Mr.

First Name

Cody

Last Name

Griffin

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Phone

432-552-2580

Superintendent

Superintendent 1

Name Prefix

Mrs.

First Name

Shannon

Last Name

Davidson

Email

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Phone

432-552-2580

Narratives

Current Designations at UTPB STEM ACADEMY:

- UTPB STEM ACADEMY - T-STEM - 1718

Previous Planning Year Applications at UTPB STEM ACADEMY:

Narratives

The majority of the following questions will be narrative response. Narrative responses are limited to a maximum of 250 words. We recommend writing your responses in a text-editing software such as Microsoft Word and then pasting your responses into the website when they are complete. Progress to the next section when you are ready.

Narratives: Degrees and Credentials

Degrees and Credentials

Select the Career Cluster(s) that your academy plans to offer in 2021-2022.

STEM

Select the Career Cluster(s) that your academy plans to offer in 2021-2022.

Biomedical Science
Engineering

Which of the following credential(s) does the academy plan to offer students in 2021-2022 school year?

NYD

The T-STEM academy shall provide a rigorous course of study that enables students to receive a high school diploma and complete industry certifications, work-based learning experiences, and/or early college credit during grades 9-12. Describe how the campus will develop a rigorous course of study that will enable a participant to receive a high school diploma and complete industry certifications, work-based learning experiences, and/or early college credit during grades 9-12.

Students at UTPB STEM Academy are exposed to learning about STEM careers from an early age. Beginning in our 6th grade the students work through PLTW Gateway courses. These courses expose, in a broad sense, students to one of three pathways. Those pathways are Programming, Engineering, and Biomedical studies. Our students choose one of those pathways that become their pathway/elective choice in high school. When students get to 11th grade they are given the option to participate in our intern program. Our intern program places our junior/seniors with business/government partners in those pathways. We also partner with UTPB for our dual credit students starting in 9th grade. That process can have students earning 0-45 hours of college credit prior to their high school graduation.

Does the IHE partner currently have an articulation agreement with a four-year IHE detailing how a student's associate degree and accrued credits could lead to a baccalaureate degree?

Yes

Provide the university name that your IHE partner has an articulation agreement with and the bachelor degree that students could earn using their associate degree and accrued credits. Each row represents a degree.

2-Year Degree	University	4-Year Degree
	University of Texas Permian Basin	

Narratives: Strategic Partnerships: IHE, Strategic Partnerships: Business Partner

Strategic Partnerships: IHE

IHE Partner 1

Affiliation

University of Texas Permian Basin

Name Prefix

Dr.

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Last Name

Wilson

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Phone

432-552-2114

Job Title

Associate Provost

The T-STEM academy shall have strategic partnerships with business and industry partners and Institutions of Higher Education (IHEs) that are formally articulated in writing and clearly define a variety of STEM careers.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirement: Curriculum alignment and courses of study, which enables a student to combine high school courses and college-level courses to earn either an associate degree, postsecondary certificate provided by an IHE, or industry certification.

UTPB STEM is a public university charter school located on the campus of The University of Texas Permian Basin (UTPB), a four-year university that is rich in Science, Technology, Engineering, and Math (STEM) related degrees. UTPB STEM is in its sixth year of implementation. UTPB STEM is currently working side by side with various departments within the university to create a seamless and successful academic pipeline, k-16. Students in grades 9-12 from UTPB STEM will have the opportunity to work with and be advised by key university figures in their chosen fields of study, ensuring quality and accuracy in academic plans. These relationships with the various departments within the university allows high students the opportunity to ask questions, experience lower level courses in their field, and have a taste of what they will be experiencing as university students. UTPB STEM Academy eligible high school students will enroll in UTPB Dual Credit courses. UTPB STEM's unique partnership with UTPB provides a collaboration with the UTPB Dual Credit Academy to plan and implement Dual Credit courses. The UTPB Dual Credit Academy is able to provide support for students through tutoring, academic counseling, and events to collaborate with professors and advisors. The partnerships with UTPB has not only allowed UTPB STEM students the ability take university level courses that fulfill both their requirements for high school and college but it has also given UTPB STEM students the ability to picture themselves as college graduates.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirements: Policies for: 1) advising students on the transferability of all college credit offered and earned, 2) ensuring the IHE transcripts college credit earned through dual credit in the same semester that credit is earned, 3) advising students as to the transferability and applicability to baccalaureate degree plans for all college credit offered and earned (college credits earned during high school should allow students to progress from an associate degree to a bachelor's degree and beyond in their chosen field), 4) students accessing the IHE facilities, services and resources

UTPB Dual Credit Academy's agreement with the STEM Academy states: "The Dual Credit Program will assist high school students in the successful transition to and acceleration through postsecondary education. All Dual Credit students will receive academic and college readiness advising with access to student support services to bridge them successfully into college course completion. UTPB shall provide dual credit enrolled student's access to the instructional and digital resources available on the campus of UTPB and ensure that all distance education students have access to library resources to support appropriately the courses in which the students are enrolled. These services include document delivery, electronic access to reference services, reserves, interlibrary loan, and a web page that includes ready links to services, contacts, and self-help modules. The library will regularly evaluate the effectiveness of resources provided to distance education student and will demonstrate education students information about library services." In addition to the services outlined above the Dual Credit Academy has counseled with most of our Dual Credit students and their parents in a one-on-one setting. They have been very accessible to our students and community.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirements: Transportation costs and fees including provisions for discontinuing operation while ensuring students previously enrolled will have opportunity to complete their course of study.

The agreement between UTPB and UTPB STEM Academy regarding transportation says: "UTPB Assumes no obligation/responsibility for transportation of students to and from the UTPB campus." UTPB STEM Academy is located on the UTPB campus. It is understood if there was a face-to-face class offered to the STEM students, they would be expected to walk to the main campus. It is also written in the MOU that the method of delivery will be electronic via online Learning Management System. All dual credit courses have been online up to this point.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirements: Data sharing agreement that includes provisions for teacher data such as qualifications and student level data such as credit hours taken and earned, GPA, formative data to assess if student is on track for college readiness

UT Permian Basin operates their online course through Canvas. The Dual Credit program monitors all dual credit students grades and gives dual credit campus facilitators access to student courses and grades. The Dual Credit program will give the counselor weekly updates and alerts of students who are missing assignments and or have low grades. With these supports built in our students have been successful.

Strategic Partnerships: Business Partner

Business/Industry Partner 1

Affiliation/Company

Ref Chem

Job Title

Vice President

Name Prefix

Mr.

First Name

Jerry

Last Name

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Business/Industry Partner 2

Affiliation/Company

City of Odessa

Job Title

Deputy Director of Public Works

Name Prefix

Ms.

First Name

Va

Last Name

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Phone

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Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Clear roles and responsibilities for work site supervisors, mentors, teachers, support personnel, and other partners.

Our agreement with our partners line out what the work place supervisor will report, and to whom. The classroom teacher's roles are outlined and they are responsible for grading the TEKS. Our parents sign our CTE Handbook acknowledgment form that also outlines their role in supporting their learner. What is expected of employers? Provide meaningful work experiences that enable students to showcase their skills Provide supervision and mentorship for students Provide weekly feedback to school supervisor What supports will the employer receive? Guidance on how to work with young people An opportunity to showcase the best of your organization to the future talent pipeline Recognition as a STEM school employer partner An opportunity to provide dynamic young people with great promise a unique opportunity to build their skills

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Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Support for students' activities, such a clubs, Career and Technical Student Organizations, competitions, and special invitations.

Our business partners are one of our first contacts as sponsors for our different organizations on campus. These include UIL Academic teams, Student Council, and Robotics. Our business partners are also requested to be part of our judges for our campus wide science fair.

Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Student access to business and industry partners and work-based learning facilities, services, and resources.

All of our business partners have a student supervisor that assists in mentoring our students on the job. Our local government agencies, and business partners provide training for safety on site also.

Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Transportation fees and costs.

The agreement states that students are responsible for their own transportation. As a charter campus our students are responsible for their own transport to and from their internships. Most of our interns

drive themselves, but a few walk to their locations due to closeness of campus.

Narratives: Regional Workforce Alignment, Work-Based Learning

Regional Workforce Alignment

List the regional high-demand occupations your academy intends to address through selected program(s) of study and work-based learning.

Regional High-Demand Occupation
Energy
Engineering
Medical
Computer Sciences

Work-Based Learning

Complete the activity tables below illustrating the work-based learning activities that your academy plans to offer students at each grade level. Please ensure the activities are STEM focused.

Add up to three activities offered to 6th grade students.

6th Grade Activities
Virtual Job Shadow
NEPRIS- online
PLTW Gateway- Automation and Robotics & Design and Modeling

Add up to three activities offered to 7th grade students.

7th Grade Activities

Virtual Job Shadow

NEPRIS- online

PLTW Gateway- Flight and Space & Medical Detectives

Add up to three activities offered to 8th grade students.

8th Grade Activities

Virtual Job Shadow

NEPRIS- online

PLTW Gateway- Green Architecture & Energy

Add up to three activities offered to 9th grade students.

9th Grade Activities

Computer Science 1

NEPRIS- online

PLTW Biomedical, Engineering Your World

Add up to three activities offered to 10th grade students.

10th Grade Activities

Computer Science 2

NEPRIS- online

PLTW Biomedical, Engineering Your World, Robotics

Add up to three activities offered to 11th grade students.

11th Grade Activities

NEPRIS- online

PLTW Biomedical, Engineering Your World, Robotics

Industry internships and Career Prep

Add up to three activities offered to 12th grade students.

12th Grade Activities

NEPRIS- online

PLTW Biomedical, Engineering Your World, Robotics

INdustry internships and Career Prep

Narratives: Advanced Academics

Advanced Academics

Select the type of advanced courses (dual credit/AP/IB) your campus plans to offer students in 2021-2022.

DC

What type of dual credit courses does your campus plan to offer?

AGCM

Describe any challenges in ensuring your academy has educators with qualification to teach dual credit. What steps did your academy take to address the need?

UTPB STEM Academy is located in the Permian Basin. The Permian Basin is currently experiencing a major shortage in teachers due to the current oil boom. The oil boom has brought more work, which means more students. It also means a shortage of housing bringing with it a tremendous increase in the cost of living. The need for teachers has increased. The challenge is recruiting and retaining teachers that can afford the expensive cost of living. The local school district started the school year with close to 400 teachers short. During this teacher shortage crisis the STEM Academy has been working closely with the university to recruit teachers. The university has offered discounted housing to teachers in need of affordable housing. The university has also worked

Is the academy a TSIA testing site?

Yes

Narratives: STEM-Focused Extracurriculars, Student Support

Student Support

Provide examples of how the campus plans to provide students with academic services. List activities and brief descriptions of the activities. Add a new row for each provided service.

Activity	Description
STEM focused student graduation plans	Each student will counsel with parents and academic counselor throughout the year to develop a graduation plan that is individualized to meet their needs and interests.
Tutoring/Intervention	Students have the opportunity to attend tutoring with teachers on Tuesdays and Thursdays each week. Dual Credit students have access to university tutors throughout the week in each of the content areas.
Advisory	Social Emotional Learning, Career connections, Penpals, Intervention
Academic advising	Academic Counselor who works with each student individualy as well as parent workshops throughout the year.

Provide examples of how the campus plans to provide students with wrap-around services. List activities and brief descriptions of the activities. Add a new row for each wrap-around service.

Activity	Description
STEM Gives Back	Students and staff volunteer in the community at various events such as keep odessa beautiful and HEB feast of sharing.
Service Learning Hours	Students volunteer in the community with educational events for service learning hours.
STEM Festival	Schowcase of the various projects the students have worked on throughout the year. We also have industry partners come out and showcase their business and work.
Education Nights	Academic planning nights to educate parents and students on the options available in high school and beyond.
Internships and Career Prep	Students are matched with industry partners to work in their fields.

Activity	Description
Dual Credit Activities	The Dual Credit Academy offers various activities throughout each semsester to support the DC students. The students have toured the campus, workshops with professors, student success labs, library workshops, writing workshops and more.
Saturday School	Student with missing work are required to come to Saturday School to complete work.
Tutoring	All STEM teachers offer open tutoring sessions on Tuesdays and Thursdays after school.

How does your academy use the access, achievement, and attainment data for program improvement?

The UTPB STEM Academy is a single campus district, a small charter school. All of our students in grades 6-12 are considered to be in the T-STEM Academy, therefore the access outcome based measures are all met. However, as a charter school we are always working on meeting the needs of the community. We are reviewing our demographics to ensure they are comparable to the community. The attainment outcome based measures are an area that the school Leadership Team reviews and discusses often. The retention rate from 8th grade to 9th is our biggest concern. We lose students to the local ISD for sports and fine arts. We are looking at enhancing programs and strengthening our school culture to help with the retention rate at this grade level. We are also planning and setting our goals for our first graduating class of 2021. These attainment outcome measures have been very helpful when setting progress goals with our students. We currently have 67% of our 11th graders who have met their CCMR points through TSI testing and Dual Credit. All of our students take the TSI tests and are given many different forms of support in order to help each student with those tests including summer bridge, test prep course, and individualized tutoring in hopes of reaching our attainment goals.

STEM-Focused Extracurriculars

Describe the STEM-focused extracurricular activities (field experiences, clubs, and competitions) offered to students.

UTPB STEM's vision of providing students with authentic learning experiences is depicted in UTPB STEM's regularly scheduled enrichment classes. These enrichment classes support and enhance the STEM fields by allowing students to explore and extend their STEM connections outside of the contend area classroom. Students are encouraged to discover new interests while delving into innovative and exciting extracurricular learning opportunities. STEM student's are given voice and choice in selecting their classes of interest. UTPB STEM offers opportunities for students to participate in competitive academic clubs. These clubs include FTC robotics, Lego robotics, Destination Imagination, UIL Academics and TAME. UTPB STEM student teams have qualified and advanced to the regional and/or state levels over the last six years in each of these competitions. The Destination Imagination club is a UTPB STEM student favorite. Students plan, develop and create 8-minute original performances "meshing" STEM with theater. Student groups are challenged to include complex scientific, technological, engineering, and mathematical concepts into a creative performance that are 100% student driven. Robotics is another competitive group challenging student's creativity and problem solving skills. Students build and program robots to accomplish specific tasks such as search and rescue or construction and destruction. The Robotics club students range from elementary to high

school age. High school students gain the valuable skill of peer mentoring, working with the younger students to design and create functioning robots.

Narratives: Leadership Team

Leadership Team

List the Leadership Team's three priorities for the next year and describe how the selected priority contributes to the academy's success. Each priority should be a benchmark from the ECHS/T-STEM/P-TECH Blueprint.

Benchmark	Description
Benchmark 1- 5a Strengthen teacher mentorship program	UTPB STEM Academy will work closely with UTPB College of Education to develop a comprehensive new teacher introductory professional development focussing on classroom management and best instructional practices for student success.
Benchmark 4-7 Continue to work with IHE on curriculum alignment between high school and postsecondary.	UTPB STEM will work with UTPB College of Nursing, College of Engineering, and College of Sciences to align curriculum and ensure a pipeline of success for students as they transition into college.
Benchmark 5-3 Continue to grow the industry insternship program as well as the career prep program.	UTPB STEM Academy will seek out additional industry partners to grow the current internship program. The Academy will also seek feedback from students and industry partners on how to strengthen and enhance the program.

Narratives: Benchmark 1 Products, Benchmark 2 Products, Benchmark 3 Products, Benchmark 4 Products, Benchmark 5 Products, Benchmark 6 Products, Benchmark Products

Benchmark Products

Benchmark 1 Products

Provide a link to the academy's mentor/induction program plans.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's annual training or professional development plan with the academy and IHE faculty

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's leadership meeting agendas and notes.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Benchmark 2 Products

Provide a link to the academy's written admission policy and enrollment application

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's written recruitment plan including a timeline of recruitment and enrollment events, and recruitment materials for distribution at feeder schools and other appropriate locations in the community.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's brochures and marketing in Spanish, English, and/or other relevant languages.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's written recruitment plan including a timeline of recruitment and enrollment events, and recruitment materials for distribution at feeder schools and other appropriate locations in the community.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Benchmark 3 Products

Provide a link to the academy's meeting agendas and minutes, with action items and decision logs.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's final, signed, and executed MOU with their industry partner/business.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's final, signed, and executed MOU with their IHE

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's list of strategic partners with each member's organization, title and role in providing work-based learning for students by grade level.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Benchmark 4 Products

Provide a link to the academy's four-year crosswalk document

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's master schedule.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's curriculum alignment documents.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's testing calendar and schedule for TSI, ACT, SAT or other assessments.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's documentation detailing a minimum of three course of study examples that outline student pathways from high school, to associate degrees, to work credential and beyond.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Benchmark 5 Products

Provide a link to the academy's documentation of appropriate work-based learning expereinces for students at all grade levels.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's current dated regional high demand occupation list.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's aggregate data describing student participation in work-based learning experiences as well as percentage of students earning industry certification and credentials by type.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's samples of student artifacts such as writing, portfolios, presentations, or links to digital content.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Benchmark 6 Products

Provide a link to the academy's bridge program calendar and curricula.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link the academy's tutoring and other intervention/remediation program schedules,

https://www.utpb.edu/academics/stem-academy/t-stem-designantion

Provide a link to the academy's calendar of family outreach events.

https://www.utpb.edu/academics/stem-academy/t-stem-designantion