



JUAREZ-LINCOLN H S
T-STEM Renewal Application
2019-2020

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Background

District Affiliation

LA JOYA ISD

CD #: 108912

Region: 01

Mailing Address (Line 1): 201 E EXPY 83

Mailing Address (Line 2):

City, State, Zip: LA JOYA, TX 78560

School Affiliation

JUAREZ-LINCOLN H S

CDC #: 108-912-004

Region:

Mailing Address (Line 1): 7801 W MILE 7 RD

Mailing Address (Line 2):

City, State, Zip: MISSION, TX 78574

Academy Information

T-STEM Academy Name:

JUAREZ-LINCOLN H S

Are you currently in the 2018-2019 planning year or are a 2018-2019 planning grantee?

No

What grade level range will your academy serve in the 2019-2020 school year?

9-12

Grade Level	Number of Students	School / CDC # Where Students are Enrolled
9	75	JUAREZ-LINCOLN H S (108912004)
10	60	JUAREZ-LINCOLN H S (108912004)
11	63	JUAREZ-LINCOLN H S (108912004)
12	56	JUAREZ-LINCOLN H S (108912004)

Contacts

Business Partner

Affiliation: Ethnos Engineering
Job Title: Principal, PE
Full Name: Mr. Cesar Gonzalez
Email: cgonzalez@ethnoseng.net
Phone Number: 956-230-3435

Superintendent

Job Title: Superintendent of Schools
Full Name: Dr. Alda Benavides
Email: a.benavides@lajoyaisd.net
Phone Number: 956-323-2000

Applicant

Job Title: Juarez Lincoln TSTEM Academy Director
Full Name: Mrs. Santos Palomo
Email: s.palomo@lajoyaisd.net
Phone Number: 956-323-2920

IHE Liaison

Affiliation: South Texas College
Job Title: Director of Early College/Dual Enrollment
Full Name: Mr. Antonio De La Cruz
Email: adelacruz_484@southtexascollege.edu
Phone Number: 956-872-2148

Narratives

Model Implementation

Which T-STEM model does the district intend to implement at this time? Within these models, there are variations. For this purpose campus is defined as a CDC number not a physical location.

School-Within-School (SWS) - A subset of students on the campus are enrolled in grades 9-12 are enrolled in the T-STEM academy.

Endorsements

Identify the current endorsements that are offered:

- Science, Technology, Engineering, and Mathematics (STEM)

Certificates

Does this academy offer Associate Degrees to students?

No

TSIA

Does this academy administer the TSIA exam?

Yes

What ID number do students use when taking the TSIA exam?

Unique State Assigned ID

Key Elements for Success

Provide a link to the job description, roles of design team, leadership team, and advisory board.

https://drive.google.com/file/d/1Cg5BZebr8WbMDGQDo_xUjKcgfmcGjOEQ/view

Provide a link to the final, signed, and executed MOU.

<https://drive.google.com/file/d/1fieicXgTkDWqPVPgkyLjSIYppYJrYakg/view>

Provide a link to the academy's master schedules.

https://drive.google.com/file/d/1M38EuUKsl66tL1ZcaeJ14XCGamPT_DsQ/view

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

https://drive.google.com/file/d/1roDu_YQpPNPcTZBHKmm4quHcmkNs9cap/view

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://drive.google.com/file/d/1ffbOMBajRkiv1JgIY64IW2LehVoNbRj2/view>

Provide a link to the academy's internship and externship opportunities.

<https://drive.google.com/file/d/1DQgOd2Wk8hhlpZKew7ZlIOcLoMCutXfZ/view>

Free-Response

Describe how the Academy will recruit, support, and retain highly qualified teachers.

The La Joya ISD Human Resources, personnel, and administrators understand the importance of recruiting teachers and support staff that are highly qualified as per the standards identified in Chapter 149: commissioner's rules concerning educator standards and the Southern Association of Colleges and Schools (SACS). Juarez-Lincoln T-STEM Academy uses these standards to inform, train, appraise and select professional development for teachers. Through the La Joya ISD New Teacher Institute (NTI), newly hired teachers are assigned to a mentor teacher at their campus where together they undergo a series of professional development days and help with in-class support. All teachers are provided with site-based professional development focused on student achievement, campus culture, sustainability structures, and professional growth. La Joya ISD works vigorously to ensure the teaching staff is updated with the academic, social and emotional learning and teaching of our students. Juarez-Lincoln (JLHS) T-STEM Academy ensures teachers are given opportunities for specialized growth on targeted student populations needs through Professional Development (PD) trainings, such as: Project/problem-Based Learning (PBL), Common Instructional Framework (CIF), Sheltered Instruction Observation Protocol (SIOP), Working on the Works (WOW), Advanced Placement Summer Institutes Training, Rubric Training, Cooperative Learning, Advance Placement (AP), and EduGuide. Furthermore, there is a concentrated effort to hire teachers with a Master's Degree in STEM content areas and with experience in teaching in diverse classrooms with at-risk students. La Joya ISD offers a \$1000 incentive pay stipend for Master Level Teachers to encourage furthering their education, positively impact instruction, and for teaching Dual Credit (DC) courses; This compensation has yield more teachers to pursue their master level degrees. Through our partnership with South Texas College (STC), the DC faculty receives multiple opportunities for PD workshops, faculty advisor training, and department meetings. STC provides DC and adjunct faculty with support on the Institution of Higher Education (IHE) faculty expectations, resources, policies, procedures, and creating a college environment through the Developing Excellence in Learning and Teaching Academy (DELTA). A PD and training calendar has been developed with input of the teaching staff, leaders and higher education partners. The DC teaching staff is allocated engaging training time to keep updated on the college curricula and delivery methods. The school district and IHE partner require that all teachers meet the rigorous teaching standards and policies. Also, our IHE partner offers stipends to teachers to compensate them for teaching dual credit classes. Additionally, Professional Learning Communities (PLC's) convene daily. Teachers have PLC time and a conference period to present on best practices, problem solve, collaborate, communicate, desegregate data, share student needs, and provide support for each other. Meeting daily helps create a shared vision and family atmosphere. The T-STEM conferences, webinars, and the TEA T-STEM network/platform sharing, also keeps everyone updated and connected to the evolving T-STEM work. La Joya ISD is committed to life-long learning for district teachers and staff. This is evident as the district has invested in resources, tools, and professional development that significantly impacts the teaching success.

Describe the current STEM pathways available at the academy.

The STEM program is rigorous and designed to inspire students to focus and strive. Along with requiring four years of mathematics and science, we support and encourage four years of electives that lead to endorsements in STEM fields. We have a guided pathway that is coherent and easy to follow aligned with requirements for success in employment and post-secondary coursework. JLHS STEM career pathways enable students to combine high school courses and college level courses toward credentials and certifications which lead to an associate's and/or bachelor's degree. Our STEM pathway offers students multiple opportunities to explore and prepare for successful careers in Engineering, Computer-Science, Math and Science STEM fields. It consists of a sequence of four courses in mathematics, science, engineering or computer science. Students have the opportunity to enroll in Career Technical Education (CTE) coherent sequence to complete their STEM Endorsement with an Engineering Pathway by completing coursework in Principles of Applied Engineering, Engineering Design and Presentation I, Engineering Design and Presentation II and the Practicum of STEM.

Students are accelerated in math and science in 9th&10th grade. Some students will earn a STEM endorsement with a mathematics pathway while completing the series of courses required in the Mathematics Pathway in Algebra I, Geometry, Algebra II, Pre-Calculus, and AP Calculus AB. Students can complete the Science Pathway by mastering Biology, Chemistry, Physics, Physics AP and Anatomy & Physiology courses. These pathways will prepare our Academy students for high-wage, high-demand, and high-skill STEM fields. The partnership we have established with (STC) provides students with the opportunity to earn their core college credit hours. The core hours can be applied to an Associate's Degree in Engineering, Computer-Science, Mathematics, Science or any other degree. A four-year crosswalk has been established and it details how students will progress towards an Associate's Degree and simultaneously earn high school credits to meet the graduation requirement. STC is our primary partner, this partnership assisted us in: 1. Implementing a dual enrollment program during and after school in the Spring, Summer session I, Summer session II, and Fall semester. 2. Assisting students to apply to STC via Apply Texas to acquire their A number. 3. Completing an STC TSI per-assessment to take the TSI assessment. 4. Enrolling students in the STC Dual Enrollment Academies with the goal of completing an Associate's Degree from the Dual Enrollment Engineering Academy (DEEA), Dual enrollment Computer Science Academy (DECSA), Dual Enrollment Medical Science Academy (DEMSA). Through the aligned dual credit college coursework and STEM-related activities, the STEM Academy director identifies resources, processes, and strategies that encourage student interest and success. As part of STEM integration, technology is integrated across the STEM pathways to provide better access to educational resources, virtual tours, research, internships, and mentorship. JLHS T-STEM Academy will prepare students for higher education, industry certifications, and careers in Engineering or Computer-Science. JLHS T-STEM Academy will also satisfy the HB 5 requirements as set forth by the Texas Legislature and ensure all courses are aligned with TEA Endorsement Initiative.

Describe how strategic alliances with industry partners and IHEs 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.

JLHS T-STEM Academy has partnered with STC to support and align with a college-going and readiness culture in conjunction with the new TEA Strategic Priorities - Connect high school to career and college ready expectation. Through a mutually developed, implemented, and monitored Memorandum of Understanding (MOU), STC and LJISD has provided opportunities for students to achieve academic success. The MOU includes courses of study and policies that outline the requirements set forth by the outcome-based measures included in TEA's T-STEM Blueprint. Students have the opportunity for site-visits and learning tours of STC and other IHE's. Through this partnership, students grow in "college knowledge," receive the support necessary to apply to college, financial aid awareness, college application process, advising, etc. The LJISD and the STC leadership team have ensured students have access to resources and facilities. STC issues an STC JAGNET account for access to Blackboard, Degree Works and the college web services. The web services include student support services, degree audits, and academic support. The district level has developed a process which includes opportunities for business and community members to become school partners and provide ongoing efforts for input. The LJISD solicited and secured business partnerships with Ethnos Engineering and Bert Ogden to support our Academy. Through the partnership of Ethnos Engineering and Workforce Solutions, we have initiated the process for the design of lessons in conjunction with the growing needs of our business partners and the career interest of our students. This all with the intent of developing more engaging and rigorous lessons that are connected to the pathway interest. Teachers and students participate in internships, informational meetings, current employment trends, externships, work-based learning experiences, and job shadowing. Also, data sharing is part of our partnership initiative. The partnership provides students and teachers with information to make informed decisions about training, services, and programs that will prepare students for specific STEM-related field. We build on the collaborative strengths of our families, educators, and community members so each can contribute to the development and success of our diverse student groups. Our district plays a significant role in engaging families in our STEM initiatives. JLHS T-STEM Academy facilitates the development of a comprehensive district-wide approach for action planning and outcome monitoring to ensure parent/family engagement success built on the collaboration between our school and community. JLHS T-STEM Academy has strong outreach staff that builds quality customer service with parents and community leaders. Parents understand the importance of being engaged in their children's STEM education, advocating for access to a rigorous curriculum and collaborating with school staff in shared decision-making. Academy information is shared during parent meetings, Why La Joya District Showcase, conferences, workshops, brochures in English and Spanish, district websites, Facebook, Instagram, Twitter, District Channel 17, and El Noticiero Newspaper. The design team focuses on achieving the goals and objectives of the T-STEM Blueprint benchmarks. The design team is engaged regularly involved in several aspects of the academy's program, including needs assessment, mid-year review, program awareness, and implementation, evaluation, and sustainability.

Describe the Academy's work-based and contextual learning in the curriculum.

JLHS T-STEM Academy is committed to graduating students from high school in four years and with at least 15 college hours in DC, AP, articulated, and concurrent enrollment courses. The goal is for students to take as many core classes as they need in preparation for their transition to college. Teachers engage students in rigorous project-based learning curriculum that fosters and reinforces 21st Century Skills on collaboration, communication, critical thinking, creativity, problem-solving skills, and teamwork. Starting 9th-grade, students are given opportunities to add to the STEM portfolio information and research that will assist them through their senior year internship or externship. Students gain insight from panels of guest speakers and industry representatives that share their knowledge about specific STEM-related fields. Students partake in field experiences provided to them through the IHE partnership with STC, as well as through agreements with business and industry partners. The goal is to have 100% of our seniors graduate with a work-based learning experience. In addition, students have the opportunity to attend job fairs and other workforce-related events arranged through the district business and community engagement specialist.

The JLHS T-STEM Academy students have opportunities to visit with colleges and universities across the State of Texas and will engage in conversations on STEM-related topics in their areas of interest. It is an expectation that Academy students are provided with project-based learning curriculum and hands-on experiences on and off campus. Through our agreements with business and industry partners, students have experienced career mentoring, externships, internships, job shadowing, and facility visits. They also benefit from career exploration, awareness, and career preparation experiences. The goal is to create 21-Century learners who think outside the box as they collaborate together on group projects, presentations, goal setting, and capstone projects during their senior year. All capstone projects must be STEM-related where students select a topic and develop a project proposal, select a mentor, conduct research and fieldwork, develop a product, and present their results to a panel of judges. Students are provided with time for innovation and invention through their selected STEM electives. The students engage in solving real-life problems in collaboration with local researchers from the University of Texas Rio Grande Valley (UTRGV) and professors made available to them through the Journalism, Science, Technology, Engineering, Math (JSTEM) partnership. All teachers have technology carts in their classrooms with laptops to enrich/enhance curriculum and learning. iPads also facilitate instruction and "Bring Your Own Device", for apps and programs such as Edmodo, Kahn Academy, TSI Online tutorials, Remind App 101, Kahoot, Quizzes, Socrative, and social media. Texas Workforce Solutions works closely with our teachers to enhance connections between academics and employment. Teachers partake in summer week-long externships to further promote career readiness and work-based learning experiences in the classroom. Students are engaged in an ongoing, sequenced workplace learning curriculum that is based on current and future industry standards that include career goals, mentoring, guest speakers, workplace visits, and internships.

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

Students are given the opportunity to engage in STEM-related internships and externships during their junior and senior years. Students receive real-life experiences in their selected field as they work hand in hand with university professors and business leaders. JLHS T-STEM Academy has partnered with the University of Texas Rio Grande Valley (UTRGV) for their summer JSTEM Project-Based Inquiry (PBI) Program for two consecutive years. JSTEM PBI is an innovative summer enrichment program offered by UTRGV Continuing Education in partnership with the College of Education & P-16 Integration. It is an intense six-week research program that has provided our academy students the opportunity to learn authentic STEM situated research at the university setting. JSTEM PBI is designed to provide opportunities for students interested in mass communication and marketing to gain hands-on experience under the guidance of experts in the fields. Students collaborate with STEM faculty and graduate students from UTRGV in order to solve a real world, original research problems over the course of six weeks. The projects are interdisciplinary and engage students in authentic inquiry and PBI pedagogy, teach and reinforce STEM concepts. Working in several teams with students from other academies, our academy students develop skills in research labs and university classrooms. Additionally, they become acquainted with various resources available at UTRGV while relevant experts train them in research methodology. They also develop problem-solving, self-directed learning, teamwork, and collaboration skills to the level of self-sufficiency to be applied in their future careers. In addition, students have attended the STEM Education Conference and participated in a discussion panel. This helps the students acquire the confidence and motivation to pursue a field of study learned in this program. More importantly, students are introduced to college life under excellent mentoring, motivating them to pursue activities like robot assembly and operation without fear or intimidation. Our goal is to spike interest in STEM careers. Aside from the JSTEM Program, our students also have participated in the Renaissance Hospital Research Symposium. Students also compete in the Hispanic, Engineering, Science, and Technology (HESTEC) Electric Car competition. The competition requires them to assemble, race and compete with the car. In addition, students participated in HESTEC week. Academy students also compete in the First Tech Challenge Robotics competition. We have a Robotics Club and Programming Club. We will also participate and compete in the Engineering Girls Day Conference at UTRGV. JLHS T-STEM Academy students participate in University Interscholastic League (UIL) robotics, math, and calculators. We also have a Rio Grande Valley (RGV) LEAD Leadership ambassador team assembled from qualifying students. Students have also attended experiential learning trips to the Toyota Company, Royal Industries, and the Physics and Engineering Festival in College Station and STEM-related university tours.