



LA JOYA H S TSTEM Academy
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

LA JOYA H S

CDC #: 108-912-001

Region:

Mailing Address (Line 1): 604 N COYOTE BLVD

Mailing Address (Line 2):

City, State, Zip: LA JOYA, TX 78560

Academy Information

T-STEM Academy Name:

LA JOYA H S TSTEM Academy

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?

9-11

Grade Level	Number of Students	School / CDC # Where Students are Enrolled
9	100	LA JOYA H S (108912001)
10	85	LA JOYA H S (108912001)
11	58	LA JOYA H S (108912001)

Contacts

Business Partner

Affiliation: Ethos Engineering
Job Title: Principal/PE
Full Name: Mr. Cesar Gonzalez
Email: c.gonzalez@ethoseng.net
Phone Number: 956-230-3435

Superintendent

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

Applicant

Job Title: Academy Director
Full Name: Ms. Silvia Elizondo
Email: s.elizondo@lajoyaisd.net
Phone Number: 956-323-2989

IHE Liaison

Affiliation: South Texas College
Job Title: Director of Early College High Schools
Full Name: Mr. Antonio De La Cruz
Email: adelacruz_4846@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://sites.google.com/view/ljhs-tstemccrm/benchmark-1>

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

<https://drive.google.com/file/d/0B5-dr5uHZsFLVzIzSWhlakp1cnkyUlhzRVgPT2tBamRjSEnN/view>

Provide a link to the academy's master schedules.

<https://sites.google.com/view/ljhs-tstemccrm/benchmark-4?authuser=0>

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

<https://sites.google.com/view/ljhs-tstemccrm/benchmark-2?authuser=0>

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://sites.google.com/view/ljhs-tstemccrm/benchmark-2?authuser=0>

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

<https://sites.google.com/view/ljhs-tstemccrm/benchmark-5>

Free-Response

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

La Joya High School T-STEM Academy process for hiring teachers is the same as the La Joya Independent School District's hiring process. There is a concentrated effort to hire educators with a Master's Degree in STEM. Teaching staff that meets the academic, social, and behavioral needs of the students will be selected for LJHS T-STEM Academy. The LJHS T-STEM Academy will ensure teachers are highly qualified by providing professional development opportunities such as Project-Based Learning (PBL), Common Instructional Framework (CIF), Sheltered Instruction Observation Protocol (SIOP), Working on the Works (WOW), Advanced Placement Institutes mentor programs, summer institutes, Rubric Training, cooperative learning, and advanced academic training. PBL helps students develop intellectually and emotionally as it uses real-world scenarios, challenges, and problems. Through PBL, students gain useful knowledge and skills that facilitate the work during designated projects. The goal of using complex questions or problems is to develop and enhance student learning by encouraging critical thinking, problem solving, teamwork and self-management. The project's proposed question drives students to make their own decisions, perform their research, and review their own and fellow students' process/projects. The CIF model are strategies that allow for powerful learning and teaching as teachers form the basis of a curriculum. The SIOP Model is research-based and validated instructional model that has proven effective in addressing the academic needs of English learners. The Cooperative learning model that is implemented at LJHS T-STEM Academy is a support system for teachers, which provides best practices, collaboration on instructional strategies and the opportunity to link Academy teachers with STC instructors to discuss curriculum alignment, classroom management, instructional strategies and other academic classroom-related components.

Advanced Academic Trainings engages the teachers in a timely dialogue around innovative instructional teaching models. Teachers interact by discussing the synergy that takes place in the classroom by allowing students to learn from each other. Teachers also learn how different teaching strategies impact student learning and its benefits to long life learning. Opportunities for professional development are provided by the district, Region I and Educate Texas. The LJHS T-STEM Academy staff will be meeting with STC personnel at the beginning of each semester to receive orientation and training to align course instruction. LJHS T-STEM Academy teachers will be provided feedback through classroom observations throughout the school year. The LJHS T-STEM Academy is committed to providing ongoing professional development opportunities to teachers. Our goal is to improve their skills and knowledge in their content area and instructional practices that promote critical thinking and problem-solving skills in STEM. La Joya ISD is committed to supporting their teachers and as a result, use The Texas Beginning Educator Support System (TxBESS) designed to provide systemic support for beginning teachers in their initial years on the job. In addition, teachers participate in monthly staff development meetings where they are introduced to WOW, SIOP, and other programs.

Describe the current STEM pathways available at the academy.

La Joya High School T-STEM Academy will encourage early commitment for predominantly at risk high school students to careers in STEM. LJHS T-STEM Academy students will have the opportunity to enroll in a STEM-related fields in Engineering or Mathematics. In addition to providing students the opportunity to earn up to 30 college credit hours towards an Associate's Degree in Engineering or in Mathematics, students will also have the opportunity to enroll in a CTE coherent sequence of courses related to STEM. These courses include, Principles of Applied Engineering; Engineering Design and Presentation I; Engineering Design and Presentation II; and either Engineering Mathematics or Practicum in Engineering, and Mathematics. This coherent sequence is aligned to South Texas College's Architectural and Engineering Technology Certificate of Completion. Through this aligned dual enrollment college coursework and STEM-related activities, LJHS T-STEM Academy will prepare their students for higher education, industry certifications, and careers in Engineering or Mathematics. LJHS T-STEM Academy will also satisfy the House Bill 5 requirements as set forth by the Texas Legislature and will ensure that all courses are aligned with the Texas Education Agency Endorsement Initiative. After the students graduate from high school and earn up to 30 college hours either in Engineering or Mathematics, they will matriculate into a two-year community college or four-year university and go on to earn an Associate's or Bachelor's degree in a STEM discipline. Furthermore, many of these students will continue their formal education by earning specialized graduate degrees in a STEM-related field. LJHS T-STEM Academy will require students to follow a schedule of college academic classes that, through curriculum adjustments to be taught at industry standards, will place an emphasis in STEM degree pathways. In an effort to increase access to higher education for students, the La Joya Independent School District Board of Trustees and the Superintendent of Schools approved a policy to waive all tuition, fees, and textbook costs for students that take dual enrollment courses. La Joya ISD has a strong partnership with STC. Through this partnership both entities have developed and implemented a MOU that defines all programmatic and financial operating aspects.

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.

La Joya High School T-STEM Academy has developed partnerships with higher learning institutions in the community to support a college readiness culture. The LJHS T-STEM Academy students will visit different universities that offer degrees in STEM. The LJHS T-STEM Academy and Region One Service Center work together to support students and parents with access and services that cultivate and engage them in STEM fields. LJHS T-STEM Academy will provide internships and externships that will become available for students during their courses of study. In addition, LJHS T-STEM Academy will be providing college trips, college financial aid awareness, service learning and other student affairs and college transition support services. The LJHS T-STEM Academy informs students and parents of the opportunities available through parent meetings, conferences, workshops, brochures, district websites, Facebook, Instagram, Twitter, Channel 17 and student mentorship. The LJHS T-STEM Academy identifies and secures key business, industry, and community partners to support T-STEM efforts as well as provides opportunities for students to apply 21st century skills. The LJHS T-STEM Academy students are encouraged to network with STEM business-industry partners for personal and group projects. Through these connections as well as internships/externships, students will gain experience, develop skills, build a network, strengthen their resumes, and learn about various STEM fields. The LJHS T-STEM Academy will develop relationships with parents by inviting them to professional guest speaker and capstone project presentations. The LJHS T-STEM Academy has recruited a Design Team to ensure collaboration, partnership, and community support between stakeholders and LJHS T-STEM Academy. The Design Team at the LJHS T-STEM Academy focuses on achieving the goals and objectives of the six (6) benchmarks from the T-STEM Blueprint. The Design Team is regularly involved in several aspects of the Academy's program including needs assessment, mid-year review, program awareness and implementation, evaluation, and sustainability. Through an MOU, with partners such as STC and Ethos Engineering, the LJHS T-STEM Academy provides opportunities to all LJHS T-STEM Academy students. Through meetings, both STC and Ethos Engineering will use their resources to make every effort to increase awareness, accessibility and ensure that students maximize the use of their resources and facilities. STC will ensure that all students are issued an STC JAGNET account, which allows personalized access to web services at the partnership college. The web services include access to all student support services, degree audits, academic support services and other educational and academic resources. STC will provide students with full access to the college's Center for Learning Excellence for all Academy students. In these centers, students can obtain additional tutoring services and will have access to individual and group study rooms. Students will also have access to STC activities and programs. Ethos Engineering, on the other hand, will work hand in hand with T-STEM Academy Teachers to develop curriculum and implement project based learning. Through a developed timeline, LJHS T-STEM Academy Design Team will develop a systematic approach allowing T-STEM students from different grade levels to take advantage of these academic and support facilities.

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

The La Joya High School T-STEM Academy ensures multiple sources of data are used to design, implement, and evaluate instruction to improve student learning and to build a strong STEM foundation. Data-driven decisions are aligned to the Academy's mission and vision statement, values, and belief. The LJHS T-STEM Academy teachers plan and use instructional strategies that require student collaboration, self-reflection, and development of critical thinking 21st Century skills. LJHS T-STEM Academy Teachers use data from state and district assessments to align instruction vertically and horizontally. During professional learning community (PLC's) time, teachers plan for personalize instruction and interventions to address individual student learning needs especially for those who may be struggling. LJHS T-STEM Academy teachers utilize PLC's, to share and model lessons aligned to college and career readiness standards with a high emphasis on STEM activities. The Academy Director will ensure teachers are planning and aligning the lesson delivery to state and district scope and sequence to ensure students are learning through best instructional practices and hands-on learning experiences. The LJHS T-STEM Academy Director and school leaders will consistently monitor instructional practices through supervision and evaluation procedures. The LJHS T-STEM Academy Director will ensure that the instruction is engaging all students in a classroom culture that is evident to STEM fields, and that PBL is aligned to other content areas. Furthermore, LJHS T-STEM Academy Director will meet with teachers to collaborate, share, and provide feedback as well as support from informal and formal walkthroughs and observations to enhance lesson planning and delivery. PBL will have a focus on exploring challenging real-world problems using an innovative comprehensive approach. LJHS T-STEM Academy teachers will meet with IHE personnel and business leaders to orientate, and collaborate with the district to develop a framework of support and align their curriculum to develop a rigorous sequence of courses for each pathway. The LJHS T-STEM Academy will be implementing a "T-STEM Student Round Table" advocacy group. No more than five to seven students will be selected at random on a monthly basis. Through these meetings, students will get to meet with district personnel as well as other classmates to engage in conversations about how we can better service our students through the Academy. Students will have an opportunity to make suggestions and share recommendations about enhancing the overall LJHS T-STEM Academy culture and instructional practices as they are aligned to student learning.

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

La Joya High School T-STEM Academy is committed to providing students with different opportunities in the areas of extracurricular, field experience, clubs and organizations as well as competitions through STEM-related activities. LJHS T-STEM Academy students have the opportunity to join the Robotics Team and participate in competitions throughout the district, region, and state. Students' work diligently to build, program, and design the robot for competition as they undergo a series of trials and errors throughout the school year. Students also have the opportunity to foster and reinforce their 21st Century Skills by applying and undergoing an interview process to become T-STEM Academy Ambassadors. LJHS T-STEM Academy Ambassadors represent the Academy in an array of leadership activities and events. Through this leadership position, students have the opportunity to represent the Academy at the campus, district, and regional level throughout the year. Academy Ambassadors compete in the Rio Grande Valley Linking Economic and Academic Development (RGV LEAD) Competition where they work together to propose change. Furthermore, our T-STEM Academy Ambassadors also competed and advanced to the Regional Entrepreneurship Challenge that focuses on promoting and encouraging entrepreneurship in the region. In addition, LJHS T-STEM Academy students have the opportunity to join STEM camps during the summer. Students are selected to participate in the University of Texas Rio Grande (UTRGV) Journalism, Science, Technology, Engineering, and Math (JSTEM) Program. The JSTEM program is an innovative summer enrichment program offered by UTRGV Continuing Education in partnership with the College of Education & P-16 Integration using Project Based Inquiry (PBI). Through this program, students have the opportunity to work hand in hand with college professors, graduate students, and professionals solving real life problems. Students conduct research, solve problems, and present their findings and solutions at the end of the program and continue to share their findings through regional conferences throughout the school year. LJHS T-STEM Academy students also have the opportunity to experience the Hispanic Engineering Science and Technology Week at UTRGV. This event is a nationally recognized model that promotes science, technology, math, and science (STEM) careers to students of all ages. Other opportunities offered to LJHS T-STEM Academy students include job fairs in 9th grade and other workforce-related events set up through our District Business and Community Engagement Specialist throughout their high school career. T-STEM Academy students will also be given the opportunity to engage in STEM-related internships and externships their 11th and 12th grade year. Through these internships and externships, students will get real-life experiences in their selected field as they will work hand in hand with professionals.