



Mercedes High School T-STEM Academy

T-STEM Renewal Application

2018-2019

Contents

[Background](#)

[Contacts](#)

[Narratives](#)

[Download Assurances Signature Page](#)

Background

District Affiliation

MERCEDES ISD

DC #: 108907

Region: 01

Mailing Address (Line 1): P O BOX 419

Mailing Address (Line 2):

City, State, Zip: MERCEDES, TX 78570

School Affiliation

MERCEDES H S

CDC #: 108-907-001

Region:

Mailing Address (Line 1): 1200 S FLORIDA

Mailing Address (Line 2):

City, State, Zip: MERCEDES, TX 78570

Academy Information

T-STEM Academy Name:

Mercedes High School T-STEM Academy

What grade level range will your academy serve in the 2018-2019 school year?

9-12

Grade Level	Number of Students
9	70
10	85
11	85
12	80

Contacts

Business Partner

Affiliation: Magic Valley Electric
Job Title: Eastern Division Manager
Full Name: Mr. Brian Acosta
Email: bacosta@magicvalley.coop
Phone Number: 866-225-5683

Superintendent

Job Title: Superintendent
Full Name: Dr. Daniel Trevino
Email: daniel.trevino@misdtx.net
Phone Number: 956-514-2000

Applicant

Job Title: Dean of Instruction
Full Name: Ms. Angela de la Fuente
Email: angela.delafuente@misdtx.net
Phone Number: 956-514-2100

IHE Liaison

Affiliation: South Texas College
Job Title: Administrator for High School Programs & Services
Full Name: Mr. Nick Gonzalez
Email: ngon@southtexascollege.edu
Phone Number: 956-872-2133

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)
- Business and Industry
- Public Services
- Arts and Humanities
- Multi-disciplinary Studies

Industry Certificates

Identify all industry certificates offered to students.

Certificate	Description
AWS D1.1 Structural Steel from American Welding Society	This endorsement covers four subject areas in AWS D1.1, material and design 10%, fabrication 30%, inspection 25%, and qualification 30%. Subject weights for each of these areas are in confor
Certified Nurse Aide/Assistant from Texas Department of Aging and Disability Services	Nurse aides must complete state-approved programs. Mercedes ISD has a state-approved program within the high school. The high school is also an approved testing site. Texas programs are 10
Cosmetology Operator License from Texas State Board of Cosmetology	Mercedes ISD has its own Cosmetology Program with an approved person licensed by the Department of Texas State Board of Cosmetology, so our students can obtained their licenses and may pract
Electrical Apprenticeship Certification Level 1 from Independent Electrical Contractors (IEC) of Texas	Mercedes ISD has a State Electrical Master Electrician which allows students to get their Apprenticeship License, so that they can start clocking in their hours toward their 8000 hours on th
Phlebotomy Technician (CPT) from National Healthcare Association/TX-DAD-SWTJC	Mercedes ISD has a licensed teacher and we are an approved Phlebotomy Technician testing site. Students must successfully complete the training covered by the NHA certification exam offered

Level One Certificates

Identify all level one certificates offered to students.

Certification	Description
---------------	-------------

Level Two Certificates

Identify all level two certificates offered to students.

Certification	Description
---------------	-------------

Certification	Description
DEEA: Dual Enrollment Engineering Academy	DEEA is a two year-round dual enrollment program developed for high school juniors and seniors of the Pecan and Mid-Valley Campus area who are seriously interested in pursuing a career in en
DEMSA: Dual Enrollment Medical Science	DEMSA is a two year-round dual enrollment program developed for high school juniors and seniors of the Starr County, Pecan and Mid-Valley Campus area who are seriously interested in pursuing
DECJA: Dual Enrollment Criminal Justice Academy	DECJA is a two year-round dual enrollment program developed for high school juniors and seniors of the Starr County and Pecan Campus area who are seriously interested in pursuing a career in
DECSA: Dual Enrollment Computer Science Academy	DECSA is a two year-round dual enrollment program developed for high school juniors and seniors of the Starr County, Pecan and Mid-Valley Campus area who are seriously interested in pursuing

Key Elements for Success

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

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to your mission statement.

<http://mercedeshs.weebly.com/stem-academy.html>

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

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's master schedules.

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's Student IGPs with CCRS and Performance Acknowledgement Plans.

<http://mercedeshs.weebly.com/stem-academy.html>

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

<http://mercedeshs.weebly.com/stem-academy.html>

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

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's description of instruction practices.

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's STEM-focused extracurricular activities.

<http://mercedeshs.weebly.com/stem-academy.html>

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

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's Senior Capstone Project description.

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's Student Portfolio Plans.

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's Academic Literacy Plan.

<http://mercedeshs.weebly.com/stem-academy.html>

Provide a link to the academy's Assessment strategy.

<http://mercedeshs.weebly.com/stem-academy.html>

Free-Response

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

Mercedes High School T-STEM Academy focuses on hiring highly qualified and student focused staff members. The T-STEM Academy has a staff retention rate of 85%. Leadership development of staff is encouraged through department leaders and weekly T-STEM teacher, counselor, and administrator faculty meetings. PLC meetings encourage team building and instructional rounds provide peer to peer assistance.

- *Strong leadership support
- *Knowledgeable staff in technology
- *Knowing the community
- *Shared resources across the department/campus
- *Opportunities for graduate studies
- *Strong competitive extra-curricular programs
- *Qualified experienced staff willing to mentor new staff

Describe the current STEM pathways available at the academy.

Mercedes High School T-STEM Academy enrollment for the 2018 - 2019 school year is open to students who have chosen to follow the pathways in the following areas:

Business and Industry Endorsement

- ☐ Architecture & Construction
- ☐ Information Technology
- ☐ Arts, A/V Technology & Communication

Multidisciplinary Studies Endorsement

- ☐ Health Science
- ☐ STEM

☐ Math

☐ Science

STEM Endorsement

- ☐ Engineering

Students will be expected to maintain satisfactory attendance and grades in all classes. Students are expected to commit to the program of study (endorsement) that leads to a career in a STEM Field.

MHS T-STEM Academy will:

- Empower students to find their voice and work on soft skills
- Allow for collaboration as a STEM team to answer, investigate, and develop solutions for real world problems.
- Provide an opportunity to participate in the T-STEM Summer Bridge Program.
- Provide an opportunity to graduate with 12-30 hours college credit
- Provide opportunities to explore post-secondary education and careers in STEM
- Guide students as they pursue post-secondary education and careers in STEM-related fields
- Provide on-going individual counseling and student and parental support for academic success

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.

Mercedes High School T-STEM Academy holds alliances with South Texas Community College, Texas A&M University in Kingsville, and Texas A&M University in College Station. Our dual enrollment courses are facilitated by both Mercedes Academy teachers and university professors to provide our students with rigorous college course work. In addition, Texas A& M College Station and the Mercedes High School T-STEM Academy hold a 5 year grant which provides hands-on internships for students in the areas of Math and Science. Furthermore, Texas A&M University provides summer professional development opportunities open to all teachers in every content, allowing teachers to collaborate on STEM related activities to meet the needs of our students, as well as state expectations.

In addition to partnerships with IHEs, our T-STEM Academy has built a partnership with CTE business partners. The Advisory Board currently meets twice a year to review events and opportunities in which the students have participated. The key challenges we will address for the 2018-2019 school year will be empower our community partners and parents to focus on relevant issues, such as finding solutions and to generating plans to provide more relevant and real world opportunities for the students.

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

Mercedes High School T-STEM Academy has developed a curriculum which incorporates STEM related material within the core subjects each grading period. This content pushes teachers and students to be more inquisitive in teaching and learning while developing the students critical and analytical thinking skills.

The "cross Curricular" approach is developed and supported through STEM collaboration PLCs, content planning Team Time, and professional development focused on student centered STEM curriculum and activities.

STEM Plan

Develop a curriculum that incorporates:

1. STEM related material within the Core Subjects throughout the Six Weeks
2. Develops critical and analytical thinking skills
3. Pushes teachers and students to be more inquisitive in teaching and learning

PROCESS:

1. PLC – STEM Collaboration
2. Team Time – Content planning
3. Professional Development for STEM curriculum and student centered

MEASURE:

1. Sign-in sheets/Agendas
2. Lesson Plans
3. Materials Collection
4. Share Best Practices
5. Teacher/Student Reflections

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

The Mercedes High School T-STEM Academy offers an array of opportunities for students to explore STEM in the world around us. Our Academy provides trips to the following areas: TSTC Challenger Mission, United Launch Alliance, Gladys Porter Zoo, STEM Conferences, Texas A&M at College Station campus visits and camps, Texas A&M at Kingsville on-site summer courses, HESTEC at the University of Texas Rio Grande Valley, First Robotics competitions, and has its very own STEM Club.

In addition, all T-STEM Academy students will complete a Capstone Project that ties into STEM. Capstone projects may incorporate internship experiences the students gain by partnering with Texas A&M University, their Certified Nursing Assistant hours through the Mercedes CTE program, or any area of STEM that will benefit their community or school.