



# ENERGIZED FOR STEM ACADEMY SOUTHWEST H S

T-STEM Renewal Application

2019-2020

# Contents

[Background](#)

[Contacts](#)

[Narratives](#)

[Download Assurances Signature Page](#)

# Background

## District Affiliation

HOUSTON ISD

CD #: 101912

Region: 04

Mailing Address (Line 1): 4400 W 18TH ST

Mailing Address (Line 2):

City, State, Zip: HOUSTON, TX 77092

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## School Affiliation

### ENERGIZED FOR STEM ACADEMY SOUTHWEST MIDDLE

**CDC #:** 101-912-390

**Region:**

**Mailing Address (Line 1):** 7055 BEECHNUT

**Mailing Address (Line 2):**

**City, State, Zip:** HOUSTON, TX 77074

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### ENERGIZED FOR STEM ACADEMY SOUTHWEST H S

**CDC #:** 101-912-455

**Region:**

**Mailing Address (Line 1):** 9220 JUTLAND

**Mailing Address (Line 2):**

**City, State, Zip:** HOUSTON, TX 77033

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## Academy Information

**T-STEM Academy Name:**

ENERGIZED FOR STEM ACADEMY SOUTHWEST H S

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

Yes

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

6-12

| Grade Level | Number of Students | School / CDC # Where Students are Enrolled              |
|-------------|--------------------|---------------------------------------------------------|
| 6           | 93                 | ENERGIZED FOR STEM ACADEMY SOUTHWEST MIDDLE (101912390) |
| 7           | 61                 | ENERGIZED FOR STEM ACADEMY SOUTHWEST MIDDLE (101912390) |
| 8           | 90                 | ENERGIZED FOR STEM ACADEMY SOUTHWEST MIDDLE (101912390) |
| 9           | 177                | ENERGIZED FOR STEM ACADEMY SOUTHWEST H S (101912455)    |
| 10          | 90                 | ENERGIZED FOR STEM ACADEMY SOUTHWEST H S (101912455)    |
| 11          | 40                 | ENERGIZED FOR STEM ACADEMY SOUTHWEST H S (101912455)    |

# Contacts

## Business Partner

**Affiliation:** Schlumberger  
**Job Title:** Director Global Stewardship-Educational Programming  
**Full Name:** Mrs. Paula Harris  
**Email:** pharris1@slb.com  
**Phone Number:** 713-375-3466

## Superintendent

**Job Title:** Founder & Head of Schools  
**Full Name:** Ms. Lois Bullock  
**Email:** lbullock@houstonisd.org  
**Phone Number:** 713-394-3550

## Applicant

**Job Title:** Principal, Energized for STEM Academy,Inc.-Southwest Campus  
**Full Name:** Mr. Ranier Perez  
**Email:** rperez13@houstonisd.org  
**Phone Number:** 713-394-3550

## IHE Liaison

**Affiliation:** Houston Community College  
**Job Title:** Director College P16  
**Full Name:** Mrs. Patricia Saunders  
**Email:** patricia.saunders@hccs.edu  
**Phone Number:** 713-718-2912

## Business Partner

**Affiliation:** Houston Airport System  
**Job Title:** Chief Community Relations Officer  
**Full Name:** Ms. Rhonda Arnold  
**Email:** rhonda.arnold@houstontx.gov  
**Phone Number:** 281-233-1618

## IHE Liaison

**Affiliation:** The University of Texas Medical Branch Southeast Texas Regional T-STEM Center

**Job Title:** Educational Outreach Director,

**Full Name:** Dr. Marguerite Sognier

**Email:** masognie@utmbe.edu

**Phone Number:** 832-216-0001

## IHE Liaison

**Affiliation:** The University of Houston Downtown

**Job Title:** Associate Professor of Bilingual Education at the Department of Urban Education

**Full Name:** Dr. Maria P. Bhattacharjee

**Email:** Bhattacharjeem@uhd.edu

**Phone Number:** 713-221-8096

# 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.**

Stand Alone Academy: Multiple Campuses - All students on the campus are enrolled in the T-STEM academy.

## Endorsements

**Identify the current endorsements that are offered:**

- Science, Technology, Engineering, and Mathematics (STEM)
- Public Services
- Arts and Humanities
- Multi-disciplinary Studies



## Certificates

**Does this academy offer Associate Degrees to students?**

No

## TSIA

Does this academy administer the TSIA exam?

Yes

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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://stem.forexcellenceacademy.org/apps/pages/index.jsp?  
uREC\\_ID=251823&type=d&pREC\\_ID=1647821](https://stem.forexcellenceacademy.org/apps/pages/index.jsp?uREC_ID=251823&type=d&pREC_ID=1647821)

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

[https://stem.forexcellenceacademy.org/apps/pages/index.jsp?  
uREC\\_ID=251823&type=d&pREC\\_ID=1647821](https://stem.forexcellenceacademy.org/apps/pages/index.jsp?uREC_ID=251823&type=d&pREC_ID=1647821)

**Provide a link to the academy's master schedules.**

[https://stem.forexcellenceacademy.org/apps/pages/index.jsp?  
uREC\\_ID=251823&type=d&pREC\\_ID=1647821](https://stem.forexcellenceacademy.org/apps/pages/index.jsp?uREC_ID=251823&type=d&pREC_ID=1647821)

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

[https://stem.forexcellenceacademy.org/apps/pages/index.jsp?  
uREC\\_ID=251823&type=d&pREC\\_ID=1647821](https://stem.forexcellenceacademy.org/apps/pages/index.jsp?uREC_ID=251823&type=d&pREC_ID=1647821)

**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://stem.forexcellenceacademy.org/apps/pages/index.jsp?  
uREC\\_ID=251823&type=d&pREC\\_ID=1647821](https://stem.forexcellenceacademy.org/apps/pages/index.jsp?uREC_ID=251823&type=d&pREC_ID=1647821)

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

[https://stem.forexcellenceacademy.org/apps/pages/index.jsp?  
uREC\\_ID=251823&type=d&pREC\\_ID=1647821](https://stem.forexcellenceacademy.org/apps/pages/index.jsp?uREC_ID=251823&type=d&pREC_ID=1647821)

## Free-Response

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

Extensive research has shown that recruiting and retaining effective teachers are the most impactful strategies that can be used to improve student learning and educational opportunities. Teacher retention at the Academy is approximately eighty percent. However, to successfully evolve to a mature stage, the Academy will increase efforts to refine a teacher needs assessment, professional development plans, and more enriched employee benefits. The plan will continue to be developed through collaborative channels of communication. In addition, benchmark and diagnostic testing for all staff identify and results are matched with the areas in which students need additional support. Staff in the development of their personal professional development plans, which are created annually, earmarks these needs.

The Academy's recruitment team aims at recruiting, and preserving dedicated and talented teachers. We believe that the quality of our teachers is instrumental in the quality of our students' education. For this reason, our environment is designed to embrace teacher diversity in professional experience and teaching style. So, we have created a partnership with alternate route certification programs, and we strive to maintain a positive working relationship with these programs. Here, we are able to find candidates who want to make a difference.

We have been able to place aspiring teachers on non-traditional paths in positions that are traditionally harder to fill.

In addition, We participate in online job boards that are specific to education, and local job fairs. We also encourage our paraprofessionals and teacher's aides that are already in the classroom to earn their teaching certificates while continuing to work at their current jobs. We offer mentorship programs, development opportunities, and a collaborative approach to learning. We have a strong mentoring program; pairing new hires with seasoned teachers who can provide guidance and support.

We also recognize that our best future teachers may be in our school right now. For this reason, we take a long-term approach to recruitment by encouraging our students to explore careers in education. We believe teachers tend to want to serve in schools in their own neighborhoods, populated by students with similar backgrounds. Our intention is to recruit committed teachers who stay in the teaching profession.

We foster a positive work environment, and we value our employees. Administration routinely identifies and expresses encouraging thoughts when teachers and staff have gone above and beyond. We offer routine professional development seminars to increase the tools our teachers hold for the success of our students.

Finally, our teachers receive competitive pay and insurance benefits (medical, dental, vision) that cover themselves and their families.

Providing more opportunities for individual staff members included in the PLC's operations where weekly reviews of the THS.

**Describe the current STEM pathways available at the academy.**

Energized for STEM Inc. offers every student a curriculum that is filled with science, technology, engineering, and mathematics, including advanced/dual credit courses in these areas.

We also encourage our students to choose a STEM degree in higher education. We support initiatives aimed at increasing the proportion of young women choosing to study in these areas and then move on to work in STEM-related fields. Initiatives such as Urban STEM made it possible for our girls to connect the dots between their role in changing the world and STEM. We believe that in order to interest girls in STEM careers, we have to show them how STEM careers align with their interests, and their desire to make an impact.

The Academy also seeks to place students who know that they want to pursue STEM-related careers on the best possible footing as they take on these challenging majors in college. Through a technology-enriched curriculum designed to activate analytical, critical, and inventive thinking, Energized for STEM Academy, Inc. will prepare students to thrive in a highly complex 21st-century society by providing project-based learning opportunities that engage and energize students. The program focuses on those fields that have a stronger correlation with mathematics and include areas such as engineering, the physical sciences, and computer-based technologies.

**STEM C & D**

Advanced Math and Sciences as determined by the state STEM E Combo

Combination of STEM courses to include a Basic Course and the advanced course in the same area.  
(from no more than two areas)

A student may earn a performance acknowledgment (requirements TBD by SBOE): for outstanding performance

- in a dual credit course
- in bilingualism and biliteracy
- on an AP test or IB exam
- on the PSAT, the ACT-Plan, the SAT, or the ACT

for earning a nationally or internationally recognized business or industry certification or license

Finally, we encourage our students to participate in research and compare a variety of advanced search tools and techniques to acquire information electronically. Throughout the school year, students utilize productivity tools on projects which allow them to learn and exercise their skills in research, analysis, problem-solving, and coding. These projects, such as robotics, are designed to integrate with other curriculum areas such as Math, Science, and Engineering.

**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.**

Energized for STEM Academy-Southwest actively maintains strategic alliances with the local community, businesses, and governmental agencies.. Their interest in producing workers in the STEM fields has led to their active participation, provision of resources, and extending of expertise to strengthen the Academy's curriculum and instruction in and outside of the classroom.

Community and Business Partners:

- Junior Achievement - empowers and prepares young people to succeed
- EMERGE-HISD- connects high-performing students from underserved backgrounds to top-tier institutions.
- ChickTech- empower women in the technology workforce and increase the number of women and girls pursuing technology-based careers.
- The Posse Foundation- identifies, recruits, and trains student leaders from public high schools to form multicultural teams called "Posses."
- BEST Robotics-Inspiring students to pursue careers in engineering, science, technology, and mathematics through robotics design
- Global Explorers- provides experiential travel scholarships to youth who would not otherwise have the opportunity to explore our world. Students embark on an international expedition studying culture, global issues, service, and leadership
- Schlumberger- provide professional development for teachers, coding clubs for students, grants for resources and professional development funding.
- Society for the Performing Arts – provide cultural arts enrichment
- The Ensemble Theatre- provide cultural arts enrichment for students through theater
- United States Marine Corps JROTC – the program uses a nationally accredited curriculum directly linked to National STEM Standards and provides youth with much-needed skills in citizenship and leadership.
- COMCAST- provides grants to purchase computers and discount internet access to student and parents whose income qualifies.
- Houston Dynamo - youth development education support and healthy living education activities
- Dallas Black Dance Theatre - provide cultural arts enrichment for students through theater and dance
- The Houston Airport System—promotes STEM career readiness in the aviation industries through fly-ins, tours, and scholarships.

Academic Alliances

- Houston Community College – provide dual credit courses

- The University of Houston-Downtown- provide support for students who pursue a degree in bilingual education
- Fisk University – provide college experiences and scholarships
- Prairie View A & M University – provide a mathematics enrichment summer camp for students entering the ninth grade that have not passed or have not taken Algebra I
- Rice University – provide professional development for our teachers
- St. Thomas University – provide professional development for our teachers Texas A & M University – provide a summer bridge program
- University of Texas, Dallas – provide summer bridge program with a STEM Curriculum
- UTMB Galveston—provides STEM education, student achievement outcomes, and to foster the future workforce.
- The University of Oklahoma—college experiences and visits and scholarships for our students.

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

Through partnerships with Texas A & M University and the University of Texas at Dallas, we have access to Project Lead the Way (PLTW), a cutting edge curriculum focused on engineering and biomedical sciences. This highly rated program is used on both the middle school and high school levels. Teachers participating in the core training have implemented the basic courses and select advanced courses. This resource has provided additional rigor and the foundation for students to learn engineering concept and skills. The curriculum is aligned with state, college readiness, and industry standards and embeds critical thinking and problem solving as well as fosters innovation and invention.

Students at the Academy participate in STEM-related extra-curricular activities that build STEM-related skills. Examples include The Robotics Club that offers opportunities for students to participate in local and state competitions through organizations such as First Robotics and Texas Alliance of Minority Engineers (TAME). The purpose of the Math Club is to encourage students to explore real-life applications of math in the school, community, and at home. It is appealing because students play math games as they sharpen their mathematical skills. Another extra-curricular activity that builds STEM-related skills is the Schlumberger Log-in Program that is designed to teach students how to design industry useful computer applications and robots. Our senior students are working on their capstone projects. As graduating seniors, the capstone project will feature the student's experience in the STEM environment or an in-depth exploration of an area of the curriculum. The project will require the disciplined use of skills, methodology, and knowledge throughout the high-school curriculum and will culminate in the final term of study to build on previous learning. The project will be a semester-long, which culminates in a paper, essay, presentation or similar product.



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

The purpose of clubs, athletics, and extra-curricular organizations at Energized for STEM Academy, Inc. is to promote student participation in STEM as well as provide leadership/collaborative opportunities. Below is a listing of STEM-focused opportunities for students

Career Fair Committee - This committee works with the leadership team in designing and implementing the Spring Career Fair. The Career Fair allows students to interact with business and STEM professionals.

Chemistry Club - This club offers students an opportunity to create, invent, compete, and play in challenges and activities that use chemistry.

Chess Club- Chess Club is a great way to spend time with like-minded students who enjoy the fun while learning. Chess teaches many life skills including; decision making, logic, planning, strategy, tactics, and teamwork.

ChickTech - This club empowers women in the technology workforce and increases the number of women and girls pursuing technology-based careers

Gaming Club -In this club members will create and design a large-scale video-game in Scratch, with a goal of pushing the Scratch engine to its boundaries.

Robotics - The Robotics Team will participate and compete in FIRST Robotics

Mathematics Club - This clubs aims at raising students' awareness of what mathematicians do and how the profession contributes to the world.

Texas Alliance of Minority Engineers (TAME) - This club is designed to inspire students and shows that engineering and technology are positively beneficial to their present and future lives.