



Energized For STEM Academy, Inc. Southeast Campus

T-STEM Renewal Application

2019-2020

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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

School Affiliation

ENERGIZED FOR STEM ACADEMY SOUTHEAST H S

CDC #: 101-912-321

Region:

Mailing Address (Line 1): 9220 JUTLAND RD

Mailing Address (Line 2):

City, State, Zip: HOUSTON, TX 77033

ENERGIZED FOR STEM ACADEMY SOUTHEAST MIDDLE

CDC #: 101-912-459

Region:

Mailing Address (Line 1): 7055 BEECHNUT

Mailing Address (Line 2):

City, State, Zip: HOUSTON, TX 77074

Academy Information

T-STEM Academy Name:

Energized For STEM Academy, Inc. Southeast Campus

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?

6-12

Grade Level	Number of Students	School / CDC # Where Students are Enrolled
6	125	ENERGIZED FOR STEM ACADEMY SOUTHEAST MIDDLE (101912459)
7	118	ENERGIZED FOR STEM ACADEMY SOUTHEAST MIDDLE (101912459)
8	114	ENERGIZED FOR STEM ACADEMY SOUTHEAST MIDDLE (101912459)
9	100	ENERGIZED FOR STEM ACADEMY SOUTHEAST H S (101912321)
10	100	ENERGIZED FOR STEM ACADEMY SOUTHEAST H S (101912321)
11	90	ENERGIZED FOR STEM ACADEMY SOUTHEAST H S (101912321)
12	118	ENERGIZED FOR STEM ACADEMY SOUTHEAST H S (101912321)

Contacts

Superintendent

Job Title: Founder & Head of Schools

Full Name: Mrs. Lois Bullock

Email: lbullock@houstonisd.org

Phone Number: 713-394-3550

Applicant

Job Title: Principal

Full Name: Dr. Shavon Clark

Email: sclark7@houstonisd.org

Phone Number: 713-641-1630

IHE Liaison

Affiliation: UTMB Southeast Regional T-STEM Center

Job Title: Educational Outreach Director

Full Name: Dr. Marquerite Sognier

Email: masognie@utmb.edu

Phone Number: 409-370-8625

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

IHE Liaison

Affiliation: Houston Community College

Job Title: P16 Director, College & Career Readiness

Full Name: Mr. Gabriel Slack

Email: gabriel.slack@hccs.edu

Phone Number: 713-696-6168

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?

Yes

Industry Certificates

Identify all industry certificates offered to students.

Certificate	Description
Certified Nurse Aide/Assistant	This training prepares students to enter the field of nursing and prepares for entry-level employment in long-term care facilities, doctor's offices and hospitals.

Level One Certificates

Identify all level one certificates offered to students.

Certification	Description
Certified Nurse Aide/Assistant	This training prepares students to enter the field of nursing and prepares for entry-level employment in long-term care facilities, doctor's offices and hospitals.

Level Two Certificates

Identify all level two certificates offered to students.

Certification	Description
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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://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.

The Academy's recruitment team invests a lot of time and energy raising awareness about the Academy and generating interest in teaching positions. They oversee all aspects of teacher recruiting, including conducting outreach to potential candidates, processing and reviewing applications, and communicating with leadership regarding hiring needs and candidate prospects. Job descriptions are continually refined each year to adequately reflect the duties and responsibilities of staff. Activities and responsibilities for staff members reflect the needs of the students. The recruitment staff is very conscious and only sends strong candidates to principals.

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 continues to be a challenge. Therefore, coaching and support is organized by the Principal, differentiated according to individual needs, and ongoing throughout the school year. 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.

The development of their personal professional development plans, which are created annually, earmarks the areas of support needed. Providing more opportunities for individual staff members is included in the PLC's operations and other professional development opportunities in a "just in time" environment. As such the Academy has partnered with the Office of Educational Outreach and Southeast Regional Texas STEM Center and The University of Houston-Downtown to provide robust and ongoing professional development. Project Share has proven to be a useful resource as teachers participate in online professional development resources, online professional communities, and search for best practices in STEM teaching on the portal's online professional communities. Significant to the development of the overall professional development plan is the data set gathered from the feedback from students, parents, and collaborating business and IHE partners. Future growth opportunities are incorporated in the Academy's long-range plan to increase community-based and IHE membership on the Advisory Board. Each new member will bring additional expertise and resources to the table to help address the professional development needs of the Academy.

High quality mentoring is required for all first year of teachers from expert teachers (strong colleagues) and is coupled with additional supports such as a reduced teaching load, shared planning, increased administrative support and competitive salaries. In addition, professional learning is embedded in within the workday. Common discipline planning periods designed to create collaborative, planning and strategic use of time will be phased in as a part of the master scheduling process.

Describe the current STEM pathways available at the academy.

The Academy 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)

The STEM pathways of Science and Mathematics are both 4-year programs centered on critical thinking to solve real-world problems found in the STEM careers. Students in the Engineering tract will apply math and science to the engineering design process to solve relevant world problems. The Certified Nursing Assistance Certification introduces tools and procedures of the biomedical world to students through case study investigations that explore body systems and health conditions of patients. PLTW courses allow students to enhance their 21st century skills, be collaborators, critical thinkers and problem solvers.

The Principal and Deputy Superintendent work collaboratively to evaluate the program's effectiveness through careful analysis of student academic data gathered through benchmarks compared to the prior year. The analysis is used to determine course sequencing and teacher professional development, and pave the way for a successful transition into STEM college and STEM careers.

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

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 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 qualify.

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

Academic Alliances

Houston Community College – provide dual credit courses

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 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 summer bridge program

University of Texas, Dallas – provide summer bridge program with a STEM Curriculum

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 mathematic 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. Students select from on site, afterschool and field trip programs to suit their time, interests and aptitudes. Experiential learning features hands simulations, workshops, and sophisticated real-world educational opportunities in addition to building relationships and the necessary 21st century success skills.

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 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 increase 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 show that engineering and technology are positively beneficial to their present and future lives.