Harmony Science Academy Houston

T-STEM Renewal Application

2018-2019

Contents

Background

District Affiliation

HARMONY SCIENCE ACADEMY

DC #: 101846
Region: 04
Mailing Address (Line 1): 14100 SOUTHWEST FRWY
Mailing Address (Line 2):
City, State, Zip: SUGARLAND, TX 77478

School Affiliation

HARMONY SCIENCE ACADEMY-HOUSTON

CDC #: 101-846-001
Region:
Mailing Address (Line 1): 9431 W SAM HOUSTON PKWY S
Mailing Address (Line 2):
City, State, Zip: HOUSTON, TX 77099

Academy Information

T-STEM Academy Name:
Harmony Science Academy Houston

What grade level range will your academy serve in the 2018-2019 school year?
9-12

Grade Level	Number of Students
9	183
10	152
11	148
12	136

Contacts

Business Partner

Affiliation: Emerson Automation Solutions
Job Title: HR Consultant
Full Name: Mrs. Kavita Ganatra
Email: kavita.ganatra@emerson.com
Phone Number: 314-553-2000

Superintendent

Job Title: Superintendent
Full Name: Dr. Tevfik Eski
Email: eeski@harmonytx.org
Phone Number: 832-831-9174

Applicant

Job Title: Principal
Full Name: Mr. Celal Giret
Email: cgiret@harmonytx.org
Phone Number: 713-492-0214

IHE Liaison

Affiliation: Houston Community College
Job Title: Director College P-16
Full Name: Mrs. Lilian Baldwin
Email: lilian.baldwin@hccs.edu
Phone Number: 713-718-5716

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

Industry Certificates

Identify all industry certificates offered to students.

Certificate	Description
Certified Pharmacy Technician (CPhT)	Individuals who meet eligibility requirements and pass the appropriate PTCB certification exams may use the CPhT (Certified Pharmacy Technician) or the CSPTTM (Certified Compounded Sterile P

Level One Certificates

Identify all level one certificates offered to students.

Certification	Description
Payroll Specialist	The Payroll Specialist Certificate prepares students to perform activities associated with human resources, payroll transactions, payroll tax compliance and filing of all quarterly and yearl

Level Two Certificates

Identify all level two certificates offered to students.

Certification	Description

Key Elements for Success

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

http://stem.harmonytx.org/advisory-board/

Provide a link to your mission statement.

https://harmonytx.org/AboutUs.php

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

https://goo.gl/2YWV4i

Provide a link to the academy's master schedules.

https://goo.gl/DUP7y1

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

https://goo.gl/R5aHT8

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

https://harmonytx.org/admissions.php

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://new.harmonytx.org/admissions.php

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

http://www.parent.harmonytx.org/

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

http://www.stemsos.com/

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

https://goo.gl/vX7xhP

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

https://sites.google.com/a/harmonytx.org/pbl/pbl-projects/capstone

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

https://sites.google.com/a/harmonytx.org/pbl/projects/hs-level-3-tasks

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

http://stem.harmonytx.org/t-stem-academies/academic-literacy/

Provide a link to the academy's Assessment strategy.

https://drive.google.com/file/d/13t-3rRdW9WuSfiSj8mMOm3So2VVBPf8U/view

Free-Response

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

Harmony Public Schools is a highly recognized and award-winning public charter school that hires top quality teachers, administrators, and other professionals. Harmony strives to provide personal growth and professional success to recent graduates, alumni, experienced professionals, and seasoned experts seeking new career opportunities. We offer competitive salaries, great benefits, professional support, and opportunities for career advancement. There are multiple reasons that encourages our staff to work at Harmony including:

-Collaborative, caring, and safe work environment with support and mentoring
-Many opportunities for advancement, career growth and development
-Schools of CHOICE with strong parental involvement
-High performing schools
-State of the art technology
-Comprehensive health package and benefits
-TRS participant

In order to recruit top talents, Harmony organizes annual Job Fairs in Texas and surrounding states. Harmony also offers Teacher Referral Bonus program where current employees can refer prospective teachers to work for Harmony and get rewarded.

Harmony Public Schools invest in developing teachers and leaders through high-quality programs, effective coaching, and ongoing professional development. An example to this is a unique talent growth program named Grow Your Own Teacher (GYOT) where Harmony Alumni are supported with financial scholarships to enable them pursue careers in Education and work for Harmony campuses.

GYOT is an innovative fellowship developed to prepare HPS's future educators and leaders. Our program provides a competitive financial opportunity – up to $20,000 for four years – for current HPS students and/or HPS graduates to pursue a bachelor's degree that leads to teacher certification. In addition, GYOT participants will receive professional development from central office experts, one-on-one coaching from a highly qualified teacher mentor, and networking opportunities with student colleagues from across Texas. Participants will earn teacher's certification before returning to serve as an HPS classroom teacher.

Harmony efforts to retain top quality teachers includes multiple approaches. One example to this is Performance Based Compensation System (PBCS) unique to Harmony where teachers are rewarded financially for excellent teaching and leading. Under this program, teachers may earn annual bonuses for student success in STAAR, NWEA MAP test, AP Exams as well as College Readiness and PBL Project completions.

In addition to these, Harmony has competitive salary and benefits for its staff. It also includes additional stipends for hard-to-recruit teaching fields such as STEM.

Describe the current STEM pathways available at the academy.

Current STEM Pathways available are the following:

1. Engineering:
In order complete Engineering Pathway, students take the following coursework:
PLTW Introduction to Engineering
PLTW Digital Electronics
PLTW Principles of Engineering
PLTW Engineering Design

2. Medical (Health Sciences)
In order complete Medical Pathway, students take the following coursework:
PLTW Principles of Biomedical Sciences
PLTW Medical Interventions
Anatomy and Physiology / AP Biology
Medical Terminology / AP Chemistry

3. .Computer Science
In order complete Computer Science Pathway, students take the following coursework:
PLTW Introduction to Engineering
PLTW Digital Electronics
AP Computer Science Principles
AP Computer Science A

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.

Our most important ally are parents, but we know how important it is to establish ties in the community and form partnerships with higher education institutions, business and community leaders. An education leader promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources. This is why we try to get MOUs with IHEs, T-STEM centers, and community/business partners. We promote understanding, appreciation, and use of the community's diverse cultural, social, and intellectual resources, build and sustain positive relationships with families and caregivers, and build and sustain productive relationships with community partners.

Below are some of the ways alliances and partnerships support our Academy::
• More than 100 student/teacher internships, job shadowing, mentorships, externships available annually.
• We have a Dual credit MOU with Houston Community College enabling our students to take take College level courses while in High School
• Annual Career Fairs, Engineering Day and similar activities are organized in our campus by our partners such as Emerson Automation to promote student interest in STEM fields.
• Students pursue research opportunities in collaboration with Tiber Research Laboratory to learn and advance their research skills

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

HPS does not offer work-based learning programs but contextual learning is embedded into our STEM curriculum with extensive use of project-based and inquiry-based learning approaches.

Harmony's instructional approach strives for equity by providing a rigorous, challenging STEM curriculum serving all students, a focus on formative assessment, and a culture of high expectations and support. Harmony's STEM curriculum is student-centered and inquiry-based and matches the focus of the NGSS and College Ready Standards on rigor, depth, and higher-order skills such as conceptual understanding and application. In addition, we emphasize mastery of 21st century skills that all students will need to be successful in college and career.

Harmony's unique approach of implementing Project Based Learning (PBL) is a nationally recognized model. The Harmony approach is to maintain the focus on standards-based and student-centered teaching while enriching and extending the learning of students through PBL projects. The goal is to promote not only collaborative skills and student ownership of learning but also to promote student success in state and national standards.

Project Based Learning is an instructional approach that emphasizes collaboration and personalized learning. In project-based learning, student groups engage in meaningful inquiry that are of personal interest to them. These problems are real-life oriented, curriculum-based, and often interdisciplinary. Learners decide how to approach a problem and what activities or processes they will perform. They collect information from a variety of sources, and then analyze, synthesize, and derive understanding from it.

The real-world focus of PBL activities is central to the process because it motivates students and adds value to their work. Their learning is connected to something real and involves life skills such as collaboration and reflection. Technology furthers the efforts of students and teachers in various phases of the PBL process. At the end of the PBL, students demonstrate their newly acquired knowledge and are evaluated by how much they have learned and how well they communicate it. Students also conduct self-evaluation to assess their own growth and learning. Throughout this process, the teacher's role is to guide and advise students, rather than to direct and manage student work.

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

There are multiple STEM-related extracurricular activities offered in our campus. Below are some examples:

1. Robotics Program/ Robotics Competitions
The objective of the Robotics program is to foster interest and competence in science, mathematics, and computers while promoting problem-solving skills, enabling creative thinking and design, and providing a domain for the application of scientific concepts. Students learn and apply the scientific, mathematical, and technological fundamentals behind the construction of robots and the design of control algorithms. They also develop some daily life skills as they build robotic creations, such as visual reasoning, problem solving, teamwork, cooperation, and self-discipline.

2. STEM Festivals
The goal of STEM festivals is to stimulate the interest of our students, parents, and the public in STEM by organizing fascinating, exciting, educational, and entertaining activities in our schools. Each year, all Harmony high school campuses organize a STEM festival to showcase students' various STEM products. Local influential people, parents, and the public are invited to STEM festivals as we celebrate the success and hard work of our students.
Students present a variety of STEM projects in these festivals some of which include;
-Year-long PBL projects
-Science Research and Engineering Projects
-Exciting STEM demonstrations , hands-on activities, and experiments
-Robotics shows

3. STEM Summer Camps
STEM summer camps are held as part of leadership camps during the summer. Several fun and hands-on activities are planned for students to engage them in STEM.

4. SeaPerch Underwater Robotics Program
SeaPerch is an innovative underwater robotics program that equips teachers and students with the resources they need to build an underwater Remotely Operated Vehicle (ROV) in an in-school or out-of-school setting. This program is supervised by our STEM Teachers.

5. Team America Rocketry Challenge
The Team America Rocketry Challenge (TARC) is the world's largest student rocket contest and a key piece of the aerospace and defense industry's strategy to build a stronger U.S. workforce in science, technology, engineering and mathematics (STEM). Students in Rocketry Club learn to design, build, and launch model rockets using their Engineering skills. This club follows the National Association of Rocketry Safety Code. Highly qualified STEM Teachers supervise this club.

6. Shell Eco-Marathon
Shell Eco-marathon is one of the world's leading energy efficiency competition programmes. Students are challenged to design, build and test energy-efficient cars, pushing the boundaries of what is technically possible. Students take their designs to the track in the Mileage Challenge to see which vehicle can compete to go the farthest on the least amount of fuel. The Drivers' World Championship sees winners from the Mileage Challenge marry the efficiency of their vehicles with the speed and skills of their driver to find the fastest energy-efficient driver.