



HARMONY SCHOOL OF INGENUITY- HOUSTON

T-STEM Renewal Application

2019-2020

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Background

District Affiliation

HARMONY SCIENCE ACADEMY

CD #: 101846

Region: 04

Mailing Address (Line 1): 14100 SOUTHWEST FRWY

Mailing Address (Line 2):

City, State, Zip: SUGARLAND, TX 77478

School Affiliation

HARMONY SCHOOL OF INGENUITY-HOUSTON

CDC #: 101-846-003

Region:

Mailing Address (Line 1): 10555 STELLA LINK RD

Mailing Address (Line 2):

City, State, Zip: HOUSTON, TX 77025

Academy Information

T-STEM Academy Name:

HARMONY SCHOOL OF INGENUITY-HOUSTON

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	55	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)
7	55	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)
8	55	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)
9	125	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)
10	125	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)
11	150	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)
12	100	HARMONY SCHOOL OF INGENUITY-HOUSTON (101846003)

Contacts

Business Partner

Affiliation: Berkadia-Houston
Job Title: Senior Managing Director
Full Name: Mr. Ryan E. Epstein
Email: Ryan.Epstein@Berkadia.com
Phone Number: 713-469-4506

Superintendent

Job Title: Area Superintended
Full Name: Mr. Ramazan Coskuner
Email: rcoskuner@harmonytx.org
Phone Number: 832-831-9174

Applicant

Job Title: Principal
Full Name: Ms. Jasmeen Kohli
Email: jkohli@harmonytx.org
Phone Number: 713-664-1020

IHE Liaison

Affiliation: Lone Star college
Job Title: Chancellor
Full Name: Dr. Stephen Head
Email: Steve.Head@lonestar.edu
Phone Number: 832-813-6515

IHE Liaison

Affiliation: Houston Community College
Job Title: P16 Director
Full Name: Ms. Athena Walker
Email: athena.walker@hccs.edu
Phone Number: 713-718-8618

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)
- 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

What ID number do students use when taking the TSIA exam?

Local District Assigned ID

Key Elements for Success

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

<https://hsingenuity.harmonytx.org/t-stem/>

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

<https://hsingenuity.harmonytx.org/t-stem/>

Provide a link to the academy's master schedules.

<https://hsingenuity.harmonytx.org/t-stem/>

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

<https://hsingenuity.harmonytx.org/t-stem/>

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://hsingenuity.harmonytx.org/t-stem/>

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

<https://hsingenuity.harmonytx.org/t-stem/>

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 district that hires top-quality teachers, administrators, and other professionals. The faculty will possess extensive knowledge and expertise in their individual subjects that will contain an integration of project-based learning (PBL) and STEM pedagogy into the classroom. Harmony has adopted and has been implementing personal growth and professional success through continuous professional development 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.

In order to recruit top talents, Harmony organizes annual Job Fairs in Texas and surrounding states. Harmony also offers a 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. Harmony staff enjoy working in a collaborative, caring, and safe work environment with support and mentoring opportunities. Additionally, Harmony provides -opportunities for advancement, career growth, and professional development; Comprehensive health package and benefits; schools of CHOICE with parental and community involvement; State of the Art technology; TRS participant In order to recruit top talents; 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 supports Harmony Alumni with financial scholarships to enable them to 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 a teacher's certification before returning to serve as an HPS classroom teacher. Harmony efforts to retain top-quality teachers includes multiple approaches. One example of this is the 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. It also includes additional stipends for hard-to-recruit teaching fields such as STEM.

Describe the current STEM pathways available at the academy.

HS-Ingenuity offers the STEM endorsement through the following pathways: STEM Math, STEM Science, PLTW Biomedical Science, PLTW Engineering. The STEM Math endorsement is earned by taking a total of five math credits during high school. HS-Ingenuity offers Algebra I, Geometry, Algebraic Reasoning, Algebra II, Precalculus, AP Statistics, and AP Calculus; any combination of five of these classes, including Algebra II and one course for which Algebra II is a prerequisite, will earn the Math endorsement. (Combining the PLTW Engineering coursework with AP math offerings can also earn our students recognition as an AP + PLTW scholar.) STEM Science is earned by taking a total of five science credits. In the upcoming year, HS-Ingenuity will offer Biology, Chemistry, Physics, AP Biology, AP Chemistry, and Forensic Science. Students must take Biology, Chemistry, Physics or AP Physics I, and any two additional science courses to earn this endorsement. (Combining the PLTW Engineering coursework or the PLTW Biomedical coursework with AP science offerings can also earn our students recognition as an AP + PLTW scholar.) The STEM endorsement may also be earned via Project Lead the Way coursework in Biomedical Science or Engineering.

STEM Pathway courses include:

1. Engineering:

In order to complete the 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 to complete the Medical Pathway, students take the following coursework:

PLTW Principles of Biomedical Sciences

PLTW Medical Interventions

PLTW Human Body Systems

PLTW Biomedical Innovations as the Capstone Course

3. Other Career and Technology Education courses such as Forensic Sciences and Accounting.

4. Advanced Placements classes, Dual Credit Classes, and Certificate Programs such as Cosmetology at Houston Community College.

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 50 student/teacher internships, job shadowing, mentorships, externships available annually.
- We have a Dual credit MOU with Houston Community College enabling our students to take College level courses while in High School
- Annual Career Fairs, Engineering Day and similar activities are organized on our campus by our partners such as Emerson Automation or Houston FYP to promote student interest in STEM fields.
- Students pursue research opportunities in collaboration with Tiber Research Laboratory to learn and advance their research skills

For instance, below are some of the other alliance

St. Lukes, we have an alliance with Ms. Sandy to host Blood Drive.

Kelsey Seybold -Medical Night Speakers

FYP Houston- Career Day organization and general discussion partner with Catherine Shepard.

Baylor College of Medicine-Saturday Morning Science

Access Health Brenda Patton Brenda.Patton@fortbendcountytexas.gov-White Coat Ceremony

Speakers/Medical Night

College of Healthcare Professionals-Medical Night and Campus tour for Senior and Junior Students.

The University of Houston ACS-ACS officers Demonstrations for students

TIBER-Dr.Altuntas with Advanced Research Program

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

HPS provided Cosmetology certificate in partnership with HCC. Even though there is not much work-based learning, contextual learning is embedded in our STEM curriculum with extensive use of project-based and inquiry-based learning approaches. The PLTW Biomedical focuses on specific careers and the essential skills that are embedded in the curriculum. Students obtain knowledge and skills from Genetics, Biotechnology, Microbiology, and Medical Innovations.

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 to 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 is 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 at our campus. Below are some examples:

1. Harmony Ingenuity Biomedical Science Academy/Program (HIBSA) is designed for students interested in the

Healthcare or Biomedical Sciences. The program provides with a rigorous curriculum as well as field experiences, clubs, and competitive opportunities. For instance, there is an annual "Meet The Healthcare Professionals Night", white coat ceremonies, where students learn from professional speakers. Students also can attend healthcare related field trips throughout the year. The HIBSA Program activities are coordinated and organized by HIBSA teachers and HIBSA Leadership students.

2. Health Occupations Students of America is a student lead organization with a focus in Biomedical Sciences as well as leadership. Students attend leadership conferences, participate in competitions, hold schoolwide events such as Blood Drives or public awareness projects, and/hold Saturday camps such as "Junior Genuises." for elementary and middle school-aged children to get them excited about science and healthcare.

3. 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.

4. 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

-Exciting STEM demonstrations, hands-on activities, and experiments

-Robotics shows

5. STEM Summer Camps

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

Students in the Rocketry Club learn to design, build, and launch model rockets using their Engineering skills.

6. Saturday SAT Club designed by a group of Junior Students with a passion to learn and work collaboratively

7. STEM Club for Middle School.

8. Recycling Club

9. Advanced Research and Mentorship Program is where students conduct advanced research projects under the supervision of a professor and receive the opportunity to present their knowledge at various competitive events locally, in State and Internationally.

