



# BROOKS ACADEMY OF SCIENCE AND ENGINEERING

T-STEM Renewal Application

2019-2020

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# Background

## District Affiliation

BROOKS ACADEMY OF SCIENCE AND ENGINEERING

**CD #:** 015830

**Region:** 20

**Mailing Address (Line 1):** 3803 LYSTER RD

**Mailing Address (Line 2):**

**City, State, Zip:** SAN ANTONIO, TX 78235

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## School Affiliation

BROOKS ACADEMY OF SCIENCE AND ENGINEERING

**CDC #:** 015-830-001

**Region:**

**Mailing Address (Line 1):** 3803 LYSTER RD

**Mailing Address (Line 2):**

**City, State, Zip:** SAN ANTONIO, TX 78235

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## Academy Information

**T-STEM Academy Name:**

BROOKS ACADEMY OF SCIENCE AND ENGINEERING

**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	150	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)
7	164	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)
8	153	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)
9	179	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)
10	152	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)
11	145	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)
12	135	BROOKS ACADEMY OF SCIENCE AND ENGINEERING (015830001)

# Contacts

## Business Partner

**Affiliation:** Cox Manufacturing Company  
**Job Title:** Training Coordinator  
**Full Name:** Mr. Sean Althaus  
**Email:** althaus@coxmanufacturing.com  
**Phone Number:** 210-657-7731

## Superintendent

**Job Title:** Superintendent  
**Full Name:** Ms. Lisa Schutz  
**Email:** Lisa.Schutz@brooksacademy.org  
**Phone Number:** 210-541-0051

## Applicant

**Job Title:** STEM Instructional Specialist  
**Full Name:** Mr. Thomas Hernandez  
**Email:** thomas.hernandez@brooksacademy.org  
**Phone Number:** 210-541-0051

## IHE Liaison

**Affiliation:** Palo Alto College  
**Job Title:** President  
**Full Name:** Dr. Robert Garza  
**Email:** rgarza@alamo.edu  
**Phone Number:** 210-486-3960

# 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)
- 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?

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://base.brooksacademy.org/apps/pages/index.jsp?  
uREC\\_ID=363184&type=d&termREC\\_ID=&pREC\\_ID=682439](https://base.brooksacademy.org/apps/pages/index.jsp?uREC_ID=363184&type=d&termREC_ID=&pREC_ID=682439)

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

[https://base.brooksacademy.org/apps/pages/index.jsp?  
uREC\\_ID=363184&type=d&termREC\\_ID=&pREC\\_ID=682450](https://base.brooksacademy.org/apps/pages/index.jsp?uREC_ID=363184&type=d&termREC_ID=&pREC_ID=682450)

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

[https://base.brooksacademy.org/apps/pages/index.jsp?  
uREC\\_ID=363184&type=d&termREC\\_ID=&pREC\\_ID=682431](https://base.brooksacademy.org/apps/pages/index.jsp?uREC_ID=363184&type=d&termREC_ID=&pREC_ID=682431)

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

<https://brooksacademy.schoolmint.net/signin>

**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://base.brooksacademy.org/apps/pages/index.jsp?  
uREC\\_ID=363184&type=d&termREC\\_ID=&pREC\\_ID=682443](https://base.brooksacademy.org/apps/pages/index.jsp?uREC_ID=363184&type=d&termREC_ID=&pREC_ID=682443)

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

[https://base.brooksacademy.org/apps/pages/index.jsp?  
uREC\\_ID=346596&type=d&termREC\\_ID=&pREC\\_ID=655630](https://base.brooksacademy.org/apps/pages/index.jsp?uREC_ID=346596&type=d&termREC_ID=&pREC_ID=655630)

## Free-Response

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

BASE will recruit highly qualified teachers by supporting their curriculum ideas and innovations. BASE will also provide continuing education in classroom management, problem/project based learning, and technology/software training and classroom implementation. We want teachers to be able to decide what projects interest our students and what real world problems concern our school. We will also send teachers to professional development in their certification areas in order to help them be comfortable in their curriculum and to get new ideas and projects for our students. We also have financial incentives for perfect attendance. We provide all new teacher hires(new to campus/district and/or profession) one on one mentoring and monitoring by our instructional specialist for continual support and guidance to maximize personal /professional growth along with maintaining high quality instruction, class management and student learning. Both internal professional development is provided as well as external professional development is encouraged. We also have PLC's for teachers to participate in based on interest, specific subject matter and/or grade level for community support and inclusion.

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

Computer Science Engineering. This pathway prepares students for a career in programming and IT services. Students are introduced to software development, gaming, graphic design, project management, Students will also have an opportunity to do AP computer science principles and computer science A and have the opportunity to do Capstone Project.

Civil Engineering. This pathway prepares students for a career in engineering. They are introduced to the engineering design pathway, architecture, robotics, computer aided design (CAD) software, 3D printers, computer programming, and others. Students can also get OSHA 10 certification. They have the opportunity to complete their pathway with a Capstone Project.

Biotechnology. This pathway prepares the student for a career in biomedical research and human health services. Students learn about the human body, research practices, laboratory practices, medical professions, and social and community health populations. Students also learn project management, communication, and safety practices. Students also have the opportunity to be Biological Lab Technician and CPR certified.

Arts and Humanities. This pathway prepares students for a career in the field of the arts, government, community services, social service careers, and others. Students learn about their community, nonprofits, government agencies, art history, graphic design, population dynamics, sociology, and psychology. Students have the opportunity to participate in several AP courses including AP government, world history, US history, Spanish, and art portfolio.

**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.**

IHE will support the academy by providing opportunities for our students to attend dual credit classes in person and online. This will enable students to begin their college career and prepare them for future courses. Palo Alto College works with us to provide our students with TSI guidance and recruitment in order to provide the most students as possible with this opportunity. Other partners include DPT laboratories. They provide insights into business practices and employment recruiting by being a part of our advisory board. They also allow our teachers to participate in teacher externships where they learn about industry practices and the technical and professional skills in order to be successful. We also have partners in Caterpillar Inc who have allowed us to bring middle school girls to a Girls Day of engineering learning and hands on participation. Another of our business partners is Metropolitan Methodist Hospital, who has been a gracious supporter over the years in sponsoring many of our health care interested upper division students in providing them job shadowing opportunities in various departments and allowing selected skilled students in appropriate instances more interactive opportunities as part of their learning which lends this to their senior capstone projects. Our Business partners provide us with internship, teacher externship, resources, and advisory board participation. We also have parent and family partnerships. They provide us with mentors and extracurricular volunteers. Parents and family members provide us with help in STEM activities, trips, and learning opportunities. They also help us connect with other business partners in the community.

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

BASE uses WBL to prepare our upper division students to be both college and workforce ready. We arrange with our business partners student placements based on student's interest, endorsement plan and skill sets acquired. Based on school business partner agreements the student placement may be Job Shadowing, paid or unpaid student internships, on-campus independent study(capstone project) with faculty mentor/supervision. We also offer students opportunities to participate in job fairs and college fairs to practice their social skills in interviewing and resume writing as well as career exploration experiences. We have representatives from corporations and entrepreneurs to do presentations, provide career information, participate in career fairs, provide job shadowing, and make themselves available for mentoring. We also provide certifications in CPR, Biological Lab Technician, and OSHA 10. In the classroom, we use teacher externships and advisory board information to develop curriculum that concentrates on skills needed for careers in tech and science. The use of our Capstone project provides opportunities for business leaders and representatives to review work from our students and how they would be applied in their industry.

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

BASE offers many STEM extra curricular activities. We have focused on FIRST Robotics Competition and competed every year for the past 5 years. Students learn to develop a solution to a game and work with other students and schools to get the highest score possible. We also have ACE engineering where students develop a plan to improve or create a new public feature in their neighborhood. They then present this idea to a group of industry partners.

Students also have the opportunity to be a part of Health Occupation Students of America where they can learn from professionals and visit different medical facilities. They can also have opportunities to be certified in CPR. We will also provide opportunities for students to be a part of Cyber Patriots. A program sponsored by the US Air Force, students are provided a simulation of a cyber attack and must work as a team to defeat the threat. This will be provided to both high school and middle school students. BASE also provide UIL competitions in Computer science knowledge. They compete throughout the year in order to get the highest score and proceed to state competition. We also provide opportunities for other programs such as Cyber Girls Start and SA Smart Mayoral challenge when available. Students work to solve problems and present their solutions to business individuals and community leaders.