



ANGLETON H S
T-STEM Renewal Application
2019-2020

Contents

[Background](#)

[Contacts](#)

[Narratives](#)

[Download Assurances Signature Page](#)

Background

District Affiliation

ANGLETON ISD

CD #: 020902

Region: 04

Mailing Address (Line 1): 1900 N DOWNING RD

Mailing Address (Line 2):

City, State, Zip: ANGLETON, TX 77515

School Affiliation

ANGLETON H S

CDC #: 020-902-001

Region:

Mailing Address (Line 1): 1900 N DOWNING

Mailing Address (Line 2):

City, State, Zip: ANGLETON, TX 77515

ANGLETON J H SCHOOL

CDC #: 020-902-044

Region:

Mailing Address (Line 1): 1900 N DOWNING

Mailing Address (Line 2):

City, State, Zip: ANGLETON, TX 77515

Academy Information

T-STEM Academy Name:

ANGLETON H S

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	507	ANGLETON J H SCHOOL (020902044)
7	529	ANGLETON J H SCHOOL (020902044)
8	506	ANGLETON J H SCHOOL (020902044)
9	50	ANGLETON H S (020902001)
10	50	ANGLETON H S (020902001)
11	54	ANGLETON H S (020902001)
12	33	ANGLETON H S (020902001)

Contacts

Business Partner

Affiliation: University of Texas Medical Branch-Angleton Danbury Campus
Job Title: BSN, RN-Nursing Program Manager for Angleton Danbury Campus
Full Name: Ms. Olivia Garner
Email: omgarner@utmb.edu
Phone Number: 979-848-9186

Superintendent

Job Title: Superintendent
Full Name: Mr. Phil Edwards
Email: phil.edwards@angletonisd.net
Phone Number: 979-864-8025

Applicant

Job Title: Advanced Academics Coordinator
Full Name: Mrs. Angela Neal
Email: aneal@angletonisd.net
Phone Number: 979-997-7318

IHE Liaison

Affiliation: Brazosport College
Job Title: Workforce Development and School Partnerships
Full Name: Ms. Beth Cassidy
Email: beth.cassidy@brazosport.edu
Phone Number: 979-230-3153

IHE Liaison

Affiliation: The University of Texas
Job Title: Senior Program Coordinator, Engineer Your World--Cockrell School of Engineering
Full Name: Ms. Theresa Dobbs
Email: tdobbs@mail.utexas.edu
Phone Number: 512-471-3017

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.

Other: Grades 6-8, all students are enrolled: Grades 9-12 uses a school-within-a school model

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

Certificates

Does this academy offer Associate Degrees to students?

Yes

Industry Certificates

Identify all industry certificates offered to students.

Certificate	Description
Certified EKG Technician (CET)	Set up and administer EKG (electrocardiogram) and stress tests
Certified Nurse Aid/Assistant (CNA)	Helps patients with daily living and healthcare needs under supervision of RN or LPN
Certified Patient Care Technician (CPCT)	Provide help to patients in hospital, doctor's office, or nursing home—Uses a wide skill set, including phlebotomy, EKG, patient care, safety, and emotional support
NCCER Core Curriculum	This industry certificate covers basic safety, communication skills, and an introduction to construction drawings
AWS D1:1	The endorsement covers four subject areas: material and design, fabrication, inspection, and qualification
AWS D9.1	This certification covers non-structural sheet metal fillet welds
API 1104 Welding Certificate	This certification allows students to gain knowledge and skills for pipe welding

Level One Certificates

Identify all level one certificates offered to students.

Certification	Description
NCCER Welding,	This certificate covers basic welding practices and the welding trade, training/apprenticeships, and personal protective equipment and safety practices in

Level 1

specific hazards or environment

NCCER
Millwright,
Level 1

This certificate demonstrates the student shows basic millwright skills including fasteners and anchors, gaskets, and o-rings, oxyfuel cutting and more.

NCCER
Pipefitting,
Level 1

The certificate shows the student has demonstrated basic pipe fitting skills including pipe fitting hand and power tools, oxyfuel cutting, ladders and scaffolds, as well as basic quantitative

NCCER
Electrical,
Level 1

Electrician level 1 demonstrates the student has basic electrician skills including orientation to the electrical trade; electrical safety and theory, introduction to electrical circuits

Level Two Certificates

Identify all level two certificates offered to students.

Certification

Description

TSIA

Does this academy administer the TSIA exam?

No

Key Elements for Success

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

<https://www.angletonisd.net/tstem>

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

<https://www.angletonisd.net/tstem>

Provide a link to the academy's master schedules.

<https://www.angletonisd.net/tstem>

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

<https://www.angletonisd.net/tstem>

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://www.angletonisd.net/tstem>

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

<https://www.angletonisd.net/tstem>

Free-Response

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

The approach for retaining staff members is based on the concept of joint support and establishing a work environment that develops a strong sense of commitment and dedication to both the children and each other. Sixty-five percent of Angleton ISD teachers have 6 or more years of experience and the average years of experience of our entire teaching staff is 11.4 years. To recruit, employ and retain such quality staff, Angleton ISD does the following:

Advertise professional vacancies on both the district website and the websites of professional trade organizations in order to attract a larger applicant pool.

Continue to manage the online application process.

Review prospective candidates' applications and resumes; select candidates to be interviewed; and use a campus committee to perform interviews (principal/supervisor makes final recommendation).

Build our partnerships with additional universities to be a part of student teacher internships prior to graduating and potential hires for our district the following year.

Continue to grow and develop a comprehensive Teacher Induction Program, which consists of a three-day induction program for all new teachers and 4 sessions that are held throughout the year for monitoring and time-specific development.

Mentoring teachers are assigned to each new teacher and the campus principals assist with the mentoring process throughout the year, and participate in required mentee meetings each semester.

All principals offer a one to two-day campus orientation for new teachers.

Annual statewide TASB salary survey results are used in the development of the compensation plan in order to be salary competitive.

All campuses have been designated as "Staff Development Schools" by the University of Houston/Clear Lake for the purpose of providing training sites for teacher interns (student teachers).

In addition, recruitment for STEM Academy teachers will focus on those interested in promoting STEM education, a willingness to use the best research-based teaching practices for STEM education, a willingness to participate in teacher externships and professional development, and peer collaboration.

As positions become available, we will seek to find candidates with expertise in STEM education.

Teacher support will be provided through orientation, monthly Lunch and Learn sessions, Professional Learning Communities (PLC), the district curriculum department, and higher education partners, and the Southeast Regional STEM Center.

Describe the current STEM pathways available at the academy.

Wildcat STEM Academy includes the STEM endorsement and pathways for engineering, computer science, manufacturing, health science and agricultural science. They are listed below:

Wildcat STEM Academy Endorsements and Programs of Study

ENDORSEMENT – STEM

PROGRAM OF STUDY – ENGINEERING AND COMPUTER SCIENCE

Engineering Programming Engineering Manufacturing – Process Tech

Year 1 Principles of Applied Engineering 1 credit Principles of Applied Engineering

Year 2 Engineering Design & Presentation I 1 credit Intro to Process Tech PT IA Dual 1 credit

Year 3 Engineering Design Problem Solving A-CTE 1 credit Oil Gas Production I PT IB Dual 1 credit

Year 4 Engineering Design Presentation II A-CTE 1 credit Oil Gas Production II PT IIA A-CTE 1 cr Year 4

Practicum in Science Tech Eng & Math A-CTE 2 credits Petro Saf Health Envir PT IIB 1 cr

Engineering Manufacturing – Instrumentation Information Technology

Year 1 Manu Engineering Tech I Instrumentation Dual 1 credit Principles of Information Technology

Year 2 Oil & Gas Prod System I Instrumentation Dual 1 credits AP Computer Sci Prin or Comp Sci I 1 cr

Year 3 Digital Electronics Instrumentation Dual 1 credits AP Computer Sci A or Comp Sci II 1 cr

Year 4 AC/DC Electronics Instrumentation Dual 1 credits Robotics I 1 cr

Pract in Information TechA-CTE 2 cr

ENDORSEMENT – BUSINESS & INDUSTRY

PROGRAM OF STUDY – AGRICULTURE SCIENCE

Agriculture Science – Animal Agriculture Science – Environment

Year 1 Principles of Agri, Food, and Nat Resources 1 credit Principles of Agri, Food & Nat Res 1 cr

Year 2 Livestock Production 1 credit Range Eco & Mgt. A-CTE 1 credit

Year 2 Equine Science or Small Animal Mgt .5 credit optional Landscaping Design Mgt .5 cr optional

Year 3 Vet Med Appl A-CTE or Food Tech & Safety 1 credit Wildlife, Fisheries, & Ecol Mgt. 1 credit

Year 3 Advance Animal Science A-CTE 1 credit (may also count as Sci credit) Horticulture Science A-CTE 1 credit

Year 4 Practicum in Agriculture Science A-CTE 2 credits Pract in Agri Sci (Adv Floral Des) 2 cr A-CTE

Year 4 Agriculture Mechanics and Metal Tech 1 credit Floral Design (Optional)

ENDORSEMENT – BUSINESS & INDUSTRY

PROGRAM OF STUDY – MANUFACTURING

Manufacturing – Welding Millwright

Year 1 Principles of Manufacturing & Construct 1 credit Principles of Man & Construct 1 credit

Year 2 Welding I 2 credits (only through Dual Credit)

Year 3 Welding II A-CTE 2 credits Precision Metal Man I (Dual) 2 credits

Year 4 Practicum in Manufacturing A-CTE 2 credits Prec Metal Man II A-CTE (Dual) 2 cr

ENDORSEMENT – PUBLIC SERVICE

PROGRAM OF STUDY – HEALTH SCIENCE

Year 1 Medical Terminology 1 credit

Year 2 Principles of Health Science 1 credit

Year 2 Anatomy/Physiology A-CTE or Pharmacology 1 credit

Year 3 Health Science Theory A-CTE 1 credit

Year 3 Health Science Theory & Health Science Clinical A-CTE 2 credits

Year 4 Practicum in Health Science A-CTE 2 credits

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.

Since the Angleton ISD STEM Summit of 2015 and the T-STEM designation that year, the district has continued to expand partnerships with our business and higher education partners.

Brazosport College, our local college partner, continues to align their programs of study with four year institutions and work with us to develop 6 year plans for students wanting to enter the workforce upon high school graduation. There is need in our community to create a pipeline of employees into process technology and instrumentation. Brazosport College has a small industrial plant and control rooms on site to give our students a work-based learning environment. As our high school students take dual credit courses, they will be immersed in the model industrial plant.

Brazosport College also hosts events, such as Women in Industry and the Brazoria County Petrochemical Signing Day for students who have received industry certifications and will continue to pursue a career with one of the industry partners.

Dow Chemical continues to support efforts and create new opportunities for student learning within the district. Their STEM Ambassadors continue to visit and mentor our students in programs, such as You Be the Chemist, and the Jr. Chapter of the Society of Hispanic Petroleum Engineers. Some new programs are apprenticeships, WE are Innovators and the Texas Alliance for Minorities in Engineering STEM trailers.

UTMB Angleton Danbury Hospital and other local health care facilities continue to support work-based learning experiences for our health science students. We've even had students offered jobs from their participation in clinical rounds at the assisted living facilities.

The University of Texas provides professional development and support for the UTeach Engineering and UTeach Computer Science and OnRamps courses offered to students. Webinars and professional collaborative groups provide colleagues and experts via interactive online support.

The UTMB Southeast Regional Texas STEM Center will provide support to our Wildcat STEM Academy by designing innovative, instructional materials and Professional Development opportunities, as well as summer camps for students and possible internships.

AISD business partners will provide industry leaders, guest speakers, mentors, externships for teachers and job shadowing and internships for students.

Students and teachers receive communications through the use of Google classroom. The Wildcat STEM Academy web page continues to be improved and we have focused our effort to reach underrepresented and at-risk students through parent meetings and groups such as the Hispanic Chamber of Commerce and Esperanza de la Voz Hispana (Hope of the Hispanic Voice).

This year we created a public relations team of students who will be STEM Ambassadors to younger students and a voice to the community about our Wildcat STEM Academy. Already, they have made presentations to 7th and 8th grade students for Career Day events and to the Angleton Chamber of Commerce. This group worked with district staff members to create a color brochure highlighting special attractions within each program of study.

Each year, Angleton ISD continues to create new partnerships within our community and look forward to more opportunities for our students.

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

Curriculum integration provides coherence to the entire STEM program experience and provides rigor to help students obtain college level readiness. Teachers will use project and problem based learning and best research based teaching strategies in the classroom. Work may be scenario based and students will work collaboratively to find creative solutions to the assigned task, then present their ideas and knowledge to others.

Students will take part in numerous opportunities to gain understanding of career options for the career path they have chosen within the Academy, including guest speakers, demonstrations, tours of industrial facilities, clinical rotations, job shadowing and internships/apprenticeships. A work-based learning framework has been drafted for each pathway to ensure all STEM students receive a variety of experiences throughout their high school career.

STEM classrooms will use digital textbooks, electronic books, Discovery Education, and other STEM related online resources. NEPRIS allows teachers to bring professionals into the classroom through interactive video. Teachers have established Google classrooms for online instruction, collaboration and feedback from teacher to student and peer-to-peer.

Each program of study offers unique experiences to students. Welding students now benefit from the latest welding technology equipment, plasma torch automated technology, as recommended by industry partners, so students are able to be technologically proficient once they leave the high school program. They are now able to earn pipe welding certifications, also.

Health science students rotate through a variety of health care facilities; i.e., hospital, emergency room, pharmacy, assisted living and nursing homes to complete clinical rotations. They also experience problem solving through the use of simulation manikans in the high school's hospital simulation lab.

Agricultural science students participate in competitions on a variety of topics and also assist with Dunes Day, a beach recovery project through the Brazoria County Parks System.

Engineering and computer science students are learning to use a variety of tools, such as 3-D modeling software, 3-D printer, and plot printer for understanding blueprints and schematics. They may also participate in the FIRST Robotics Competition to annually build a robot designed for each new game.

Students in STEM math classes benefit from a grant from Texas-New Mexico Power to purchase the latest Texas Instruments programmable calculators, Innovators, and rovers to practice coding and see math variables at work. The other part of the grant was for a RobotLab in a Box kit to demonstrate mathematics applications through the use of a robotic arm, autonomous vehicle, Sphero, and drone. Students also have the opportunity to participate in extracurricular clubs and organizations, such as WE are Innovators, which is a service organization who finds solutions to community challenges. Our goal is to provide information and learning experiences which may spark the passion of the student to find the career field of his/her dreams.

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

Angleton Wildcat STEM Academy curriculum is based on the belief that 21st Century curricula should combine rigorous academics integrated with technical education to prepare students for secondary and post secondary opportunities, career preparation and advancement, meaningful work, and active citizenship. The Angleton Wildcat STEM Academy is aligned with the Texas College and Career Readiness Standards as identified by the Texas Higher Education Board and state standards. The Advisory Board will continue to meet with STEM business leaders to identify industry standards, technical skills, and collaborative skills necessary for students to be successful in the workforce, particularly with our business partners.

The STEM Academy requirements will be embedded in the core curriculum to create an understanding of careers and will use collaboration and creativity to solve problems and engage in the community. High school students will be given both formative and summative assessments which will enable students to demonstrate specific skills or knowledge that can lead to industry certification and licensure.

Junior high school students will be given opportunities to participate in UIL competitions, You Be the Chemist club and national contests, as well as the FIRST Lego League competition and after school robotics club. Some will participate in the WE are Innovators organization to solve STEM problems and give back to the community.

High school students have the opportunity to participate in the following competitions and/or organizations:

US FIRST Robotics Skills USA Health Organizations Student Association (HOSA)

WE are Innovators Society of Hispanic Petroleum Engineers, Junior chapter

UIL Academic Competition Leo Club Power Set (Girls in STEM Honor Society) Workforce In Training (WIT)

UTMB Angleton Danbury Hospital -Mini Medical School 4H Brazoria County Fair Association

Houston Livestock Show and Rodeo AWS Welding Certification Day at Brazosport College

Brazoria County Petrochemical Signing Day

During the junior or senior year, students will participate in a capstone project in a career field of their choice or an internship or apprenticeship through local business partners.

Wildcat STEM Academy students will leave high school with a resume of a variety of learning experiences across different fields of study, so that they may find their passion and pursue a successful STEM career.