YWLA AT BILL ARNOLD

T-STEM Renewal Application

2019-2020

Contents

Background

District Affiliation

GRAND PRAIRIE ISD

CD #: 057910
Region: 10
Mailing Address (Line 1): BOX 531170
Mailing Address (Line 2):
City, State, Zip: GRAND PRAIRIE, TX 75053

School Affiliation

YWLA AT BILL ARNOLD

CDC #: 057-910-053
Region:
Mailing Address (Line 1): 1204 E MARSHALL DR
Mailing Address (Line 2):
City, State, Zip: GRAND PRAIRIE, TX 75051

Academy Information

T-STEM Academy Name:
YWLA AT BILL ARNOLD

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	220	YWLA AT BILL ARNOLD (057910053)
7	232	YWLA AT BILL ARNOLD (057910053)
8	242	YWLA AT BILL ARNOLD (057910053)
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Contacts

Business Partner

Affiliation: Frontiers of Flight Museum
Job Title: President and CEO
Full Name: Ms. Cheryl Sutterfield-Jones
Email: csuttjones@flightmuseum.com
Phone Number: 214-350-0258

Superintendent

Job Title: Superintendent
Full Name: Dr. Susan Simpson Hull
Email: susan.simpson@gpisd.org
Phone Number: 972-264-6141

Applicant

Job Title: STEM/CTE Instructional Coach
Full Name: Ms. Elizabeth Hart
Email: elizabeth.hart@gpisd.org
Phone Number: 972-343-7414

IHE Liaison

Affiliation: Dallas County Community College District
Job Title: Academic Advisor II
Full Name: Ms. Laura Mendez
Email: lmendez@dccd.edu
Phone Number: 214-860-3636

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

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://www.gpisd.org/Page/46222

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

https://www.gpisd.org/Page/46222

Provide a link to the academy's master schedules.

https://www.gpisd.org/Page/46222

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

https://www.gpisd.org/Page/46222

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.gpisd.org/Page/46222

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

https://www.gpisd.org/Page/46222

Free-Response

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

Young Women's Leadership Academy at Arnold (YWLA) and Grand Prairie Independent School District (GPISD) work together to continually engage in the recruitment and retention of teachers. We are very much aware that teachers' effectiveness is a high predictor of teacher retention. When students perform well teachers are more likely to stay in their jobs. GPISD's Human Capital department focuses much of their effort on the recruitment and retention of teachers.The district advertises positions available on the district's website and develops informational flyers to target high needs areas. Billboards and highway signs are used to highlight job fairs and district events. In addition, the district established partnerships with local teaching colleges such as Dallas Baptist University (DBU), University of North Texas (UNT), and University of Texas at Arlington (UTA). Through these partnerships many student teachers are placed on campuses in an effort to entice new teachers to join our district. Recently, a new Memorandum of Understanding (MOU) was signed between UTA and GPISD. This new MOU allows for qualifying high school students to enroll in the Education and Leadership Academy at our school and take dual-credit courses through UTA. Upon graduation, these students will continue their studies at UTA and earn their degrees and teaching certificates. The goal is to produce more teachers, particularly ones with bilingual training, who will eventually return to Grand Prairie to begin their careers. The collaboration between UTA and GPISD is a tremendous example of forward thinking to combat the teacher recruitment challenge. Once we recruit a teacher, YWLA focuses on retaining the best teachers. Our school provides informal mentoring and induction programs to novice teachers in an effort to provide the support necessary to acquire skills and transfer the best teaching strategies into the classroom. Both our district and campus provide opportunities for high quality professional learning, On campus, the Academic Facilitator and Instructional Coach conduct focused, research based professional development that has been shown to improve teaching practices. Our high-quality professional development opportunities are focused on supporting teacher development and improving student outcomes.

Describe the current STEM pathways available at the academy.

Young Women's Leadership Academy at Arnold (YWLA) has two STEM pathways, Engineering and Biotechnology. In the STEM Engineering pathway, students will take a sequence of courses including Concepts of Engineering & Design, Engineering Design & Presentation, Advanced Engineering Design & Presentation, and Engineering Design & Problem Solving as well as electives such as computer science and computer programming. Students who complete this pathway will learn the concepts needed to develop their ideas into solutions which will improve lives. Exciting hands-on learning activities like rating consumer products, destructive testing, drafting, design, presentation, career exploration, and 3D solid modeling are an intricate part of our curriculum. The pathway also has opportunities for field-based exploration. This pathway applies math, science, technology, history and English into it's content.

For the STEM Biotechnology pathway, students will take a sequence of courses including Concepts of Engineering & Design, Biotechnology, Advanced Biotechnology, and Scientific Research & Design as well as optional electives such as Forensic Science and Medical Microbiology. In the introductory Biotechnology course, students explore the basics of microbiology, bioprocessing, genetic engineering, and biotechnology careers as well as examining the role of biotechnology in the medical field. Some topics students examine include bioengineering, forensics, and food biotechnology. This course is a hands-on, experiment-based experience that will keep students interested with exciting lab-based learning and field-based exploration.We have also expanded our STEM focus to include our middle school students. In the 2017-2018 school year, we added two additional courses to the middle school electives; STEM Elective and Technology Applications. By enhancing current STEM focused curriculum, YWLA seeks to provide young women with hands-on activities conducting experiments and simulations in a controlled environment. Currently, various educational frameworks emphasize inquiry-based learning allowing for students to discover information and construct knowledge through experience and collaboration. Rather than memorize facts, the curriculum engages students' scientific curiosity, critical thinking, and problem-solving skills to develop an understanding of how things work. Moreover, our new elective courses will connect math and science to real-world applications in an effort to spark interest in the STEM Pathways. Thus, students can understand the relationship between the topics and real-world impact. Each class will focus on engaging learners in science, technology, engineering, and mathematics concepts through a hands-on approach frequently not possible in the traditional middle school classes.

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.

Through our core values of college readiness, leadership, and wellness life skills, we encourage our scholars to focus on the task at hand but strive for excellence. With the vision established on the campus being one of academic success and a STEM-focused curriculum, the staff will easily embrace strategies focused on increasing the math and science scores on campus. Additionally, the district STEM Director actively engages in the development and support of STEM endeavors on multiple campuses. The STEM Director has developed a multi-campus STEM Leadership Team who meets on a monthly basis and provides support and ideas to one another. Our campus' participation will provide us access to a forum for sharing best practices, proven techniques and unique methodology for our STEM focus.

Using our relationship with Dallas County Community College (DCCD) and the University of Texas Arlington (UTA), the students at YWLA are able to get a head start on their college education because they earn high school and college credit simultaneously. Our students are demonstrating college readiness. Through these partnerships, students transition to post-secondary education with an accelerated pathway towards an associate or four-year degree. These dual credit programs provide quality and rigorous coursework equivalent to other college level courses. By working with these IHEs, YWLA is able to increase the likelihood that our students will complete high school and enroll in and persist in college. The dual credit program contributes to our school goals of Closing the Gaps through greater participation and increased academic success.

Over the last five years, Young Women's Leadership Academy and the Frontiers of Flight Museum (FOFM) have forged a mutually beneficial relationship. The Museum provides our students with educational opportunities that stimulate interest in STEM studies and lead to careers in STEM fields. Through the support of the museum, we have been able to broaden the awareness of STEM through the introduction to aviation and space. Our students have been provided STEM education through field trips to the Museum, onsite and outreach programming, SPOC planetarium programming, spring break camp, field trips during Engineers week, summer camp, and special presentations by industry professionals and leaders. Our students have also had exposure to career pathways through FOFM Engineers week, spring break camp, and presentations by industry professionals. The educational programs completed by the Museum are designed to apply science, technology, engineering, and mathematics principles to the area of aviation and space flight. By working with the museum, students from YWLA are building confidence in their leadership skills through internships and volunteer opportunities.

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

YWLA seeks to provide young women with hands-on activities conducting experiments and simulations in a controlled environment. Our educational frameworks emphasizes inquiry-based learning allowing for students to discover information and construct knowledge through experience and collaboration. Our curriculum engages students' scientific curiosity, critical thinking, and problem-solving skills to develop an understanding of how things work. Moreover, we connect math and science to real-world applications in an effort to spark interest in the STEM Pathways. Students can understand the relationship between the topics and real-world impact. Classes focus on engaging learners in science, technology, engineering, and mathematics concepts through a hands-on approach frequently not possible in the traditional classes. We believe by creating field experiences and clubs as well as participating in competitions we will inspire our students to explore college and career paths they never before imagined. These experiences will assist in developing students who are more confident, possess strong character, and demonstrate self-reliance. These personal attributes will serve to benefit the students' academic and emotional growth as well as provide education about STEM. This school year, our students were presented with many field experience opportunities to enhance their development in STEM. Through partnerships with various business and organizations, we have developed field experiences for both middle and high school students. Our students have also had exposure to career pathways through FOFM Engineers week, spring break camp, and presentations by industry professionals. The educational programs completed by the Museum are designed to apply science, technology, engineering, and mathematics principles to the area of aviation and space flight. By working with the museum, students from YWLA are building confidence in their leadership skills through internships and volunteer opportunities.

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

The YWLA student body is diverse and we have many students from families who speak languages other than English. Approximately 88% of our girls qualify for the Federal Free or Reduce Lunch Program. Many of our students at YWLA come from families with limited real world experiences. Although a student's limited exposure can hinder their academic growth, we strive to provide those experiences for our girls. Our goal is to help develop these young women so they understand their options in life and with higher education. Being a single gender school, we are focused on the unique needs and development of our young women and assist in alleviating any fears about college and careers. Our teachers and staff consistently look for ways to improve student motivation, attention, behavior, attendance and focus. We believe by creating field experiences and clubs as well as participating in competitions we will inspire our students to explore college and career paths they never before imagined. These experiences will assist in developing students who are more confident, possess strong character, and demonstrate self-reliance. These personal attributes will serve to benefit the students' academic and emotional growth as well as provide education about STEM. This school year, our students were presented with many field experience opportunities to enhance their development in STEM. Through partnerships with various business and organizations, we have developed field experiences for both middle and high school students. This year, field experiences have included tours of General Motors Assembly Plant and Southwest Airlines corporate offices.

Campus clubs have expanded over the last few years. Middle school and high school clubs now include TAME, Best Robotics, First Lego League, Girls Who Code, Green and Clean Team, and Garden/Bio Club. At the high school level, we have Career and Technical Student Organizations (CSTOs) serving our career and technical education students and teachers. These CSTOs have enhanced our students' learning through contextual instruction, leadership and personal development, applied learning and real-world application. The CTSOs at YWLA currently include SkillsUSA, DECA and TAFE. These organizations, in conjunction with our CTE teachers, are an integral component of our curriculum and instruction. Students participate in hands-on demonstrations and real life and/or work experiences through our Career and Technical Education (CTE) program. Over the last few years, our students have held leadership positions in our CSTOs at the local and state level and attend leadership development conferences to network with other students as well as business and industry partners.