



LEE H S
T-STEM Renewal Application
2021-2022

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Background

District Affiliation

GOOSE CREEK CISD

CD #: 101911

Region: 04

Mailing Address (Line 1): P O BOX 30

Mailing Address (Line 2):

City, State, Zip: BAYTOWN, TX 77522

School Affiliation

LEE H S

CDC #: 101-911-002

Region:

Mailing Address (Line 1): P O BOX 30

Mailing Address (Line 2):

City, State, Zip: BAYTOWN, TX 77522

Academy Information

What is the academy name?

Robert E. Lee High School STEM Academy

Which model does the district intend to implement at this time? Within these models, there are variations.

School-Within-School (SWS) - A subset of students on the campus are enrolled in grades 9-12 are enrolled in the academy.

Grade Levels Served

What grade level(s) will your academy plan to serve in the 2021-2022 school year?

9
10
11
12

Enter the number of students that you plan to serve in 9th grade.

85

Enter the number of students that you plan to serve in 10th grade.

55

Enter the number of students that you plan to serve in 11th grade.

50

Enter the number of students that you plan to serve in 12th grade.

40

Contacts

Applicant

Applicant 1

Job Title

CTE Specialist

Name Prefix

Mrs.

First Name

Carling

Last Name

Caldwell

Email

carling.caldwell@gccisd.net

Phone

2814204535

Principal

Principal 1

Name Prefix

Dr.

First Name

Romulo

Last Name

Crespo

Email

romulo.crespo@gccisd.net

Phone

2814204535

Superintendent

Superintendent 1

Name Prefix

Dr.

First Name

Randal

Last Name

O'Brien

Email

randal.obrien@gccisd.net

Phone

2814204800

Narratives

Current Designations at GOOSE CREEK CISD:

- LEE H S - T-STEM - 1516
- IMPACT EARLY COLLEGE H S - ECHS - 1011
- STUART CAREER TECH H S - P-TECH - 1718

Previous Planning Year Applications at GOOSE CREEK CISD:

Narratives

The majority of the following questions will be narrative response. Narrative responses are limited to a maximum of 250 words. We recommend writing your responses in a text-editing software such as Microsoft Word and then pasting your responses into the website when they are complete. Progress to the next section when you are ready.

Narratives: Degrees and Credentials, Recruitment and Enrollment

Degrees and Credentials

Select the Career Cluster(s) that your academy plans to offer in 2021-2022.

Energy
Manufacturing
STEM

Select the Program(s) of Study your academy plans to offer in 2021-2022.

Refining and Chemical Processes

Select the Career Cluster(s) that your academy plans to offer in 2021-2022.

Advanced Manufacturing and Machinery Mechanics

Select the Career Cluster(s) that your academy plans to offer in 2021-2022.

Engineering
Renewable Energy

Which of the following credential(s) does the academy plan to offer students in 2021-2022 school year?

PSC2
IC

What level 2 postsecondary certificate(s) provided by an IHE does the academy plan to offer?

Item
Instrumentation Technology/Technician

What industry certifications does the academy plan to offer?

Item
NCCER Core Curriculum
FAA (Federal Aviation Administration) Part 107 Remote Drone Pilot

Does the IHE partner currently have an articulation agreement with a four-year IHE detailing how a student's associate degree and accrued credits could lead to a baccalaureate degree?

No

Recruitment and Enrollment

Describe any changes in established plans for recruitment and enrollment process that meet open enrollment requirements.

With the COVID Pandemic, we are expanding our recruitment and adding several virtual events that have not been done in the past. We hosted a virtual Career Spotlight that was open to the entire school district. This event showcased the STEM Academy, its pathways, and the potential career paths for our students. We have also utilized more social media. We have involved our District's Communications team with the development of engaging social media posts that are posted to several different platforms. This year we were able to speak with every eighth grader in our district through their History, Science or English class. This allowed small group presentations, and I was able to answer many questions the students had. We continued our routine lunch visits to the Junior schools, answering any questions, handing out brochures and assisting the students with the application process.

Narratives: Strategic Partnerships: IHE, Strategic Partnerships: Business Partner

Strategic Partnerships: IHE

IHE Partner 1

Affiliation

Lee College

Name Prefix

Ms.

First Name

Marissa

Last Name

Moreno

Email

mmoreno@lee.edu

Phone

281-425-6384

Job Title

Executive Director, School & College Partnerships

The T-STEM academy shall have strategic partnerships with business and industry partners and Institutions of Higher Education (IHEs) that are formally articulated in writing and clearly define a variety of STEM careers.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirement: Curriculum alignment and courses of study, which enables a student to combine high school courses and college-level courses to earn either an associate degree, postsecondary certificate provided by an IHE, or industry certification.

Through our partnership with Lee College, we are able to offer our students the ability to complete a Level II Industry Certification as an Instrumentation Technician. Our students take four Dual credit courses their 10th, 11th and 12th grade years for a total of 12 college courses. This course load allows our students to complete all of the necessary requirements to obtain this industry certification. It also puts them eighty percent of the way towards their Associates degree as an Instrumentation Technician. Our other STEM Academy pathway students are also encouraged to challenge themselves by taking dual credit core and/or elective courses offered by Lee College.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirements: Policies for: 1) advising students on the transferability of all college credit offered and earned, 2) ensuring the IHE transcripts college credit earned through dual credit in the same semester that credit is earned, 3) advising students as to the transferability and applicability to baccalaureate degree plans for all college credit offered and earned (college credits earned during high school should allow students to progress from an associate degree to a bachelor's degree and beyond in their chosen field), 4) students accessing the IHE facilities, services and resources

Once our Academy students have completed their Apply Texas, a Lee College advisor registers them into the appropriate courses and meets with them twice a year. They are given a Lee College ID and have access to the College's facilities as needed. The Lee College advisor also works closely with the Academy CTE Specialist and the campus College and Career Counselor to ensure all requirements are being met and maintained. These three positions have a shared folder on Google Drive where all current enrollment, TSI, programs of study and timelines are kept to ensure all parties are on the same page and all student achievement data is accessible.

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirements: Transportation costs and fees including provisions for discontinuing operation while ensuring students previously enrolled will have opportunity to complete their course of study.

We are so lucky to have a school district that prioritizes College and Career Readiness, they cover most of the fees for our students. A yearly fee of fifty dollars is all our students have to pay if they wish to take any dual credit courses. The students are required to provide their own transportation. We have created a new state of the art Instrumentation Lab and classroom on our High School campus and the Lee College Instructor commutes here to teach our students. In regard to our core or other elective dual credit courses, we have qualified campus faculty that are approved by Lee College to be instructors. Our first and second cohort of students for the Instrumentation pathway, are actually on two different program sequences and the college has ensured us that they will provide all classes needed for each cohort to graduate with the necessary requirements to obtain their industry certification..

Describe how the IHE articulation agreement addresses the following IHE Blueprint Requirements: Data sharing agreement that includes provisions for teacher data such as qualifications and student level data such as credit hours taken and earned, GPA, formative data to assess if student is on track for college readiness

Our campus College and Career Counselor and CTE Specialist work closely with the Dual Enrollment office at Lee College as well as our students' Lee College Advisor to ensure students are on track. All grading period data is shared routinely as well as TSI testing results. This data is kept in a shared folder on the Google Drive for those three people to access. The campus personnel, Lee College advisor and course instructors review data at the end of each grading period to determine the best course of action for struggling students, enrichment activities for excelling students, and motivational strategies for disengaged students.

Strategic Partnerships: Business Partner

Business/Industry Partner 1

Affiliation/Company

ExxonMobil

Job Title

Fuels North Process Department Head

Name Prefix

Mr.

First Name

Christopher

Last Name

DellaFranco

Email

christopher.d.dellafranco@exxonmobil.com

Phone

504.352.4579

Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Clear roles and responsibilities for work site supervisors, mentors, teachers, support personnel, and other partners.

All of the above mentioned personnel are represented on our STEM Academy Advisory Board. Our ExxonMobil representative is the chair of our board and he provides structured leadership as well as industry expertise to the role. ExxonMobil is also our Partner in Education and serves our campus in a mentor role. Their leadership and guidance has allowed our Academy teachers the freedom to truly immerse our students in engaging real world lessons. Our students benefit from this partnership by acquiring industry mentoring, field experiences, guest speakers and job shadowing opportunities.

Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Support for students' activities, such a clubs, Career and Technical Student Organizations, competitions, and special invitations.

ExxonMobil supports the STEM Academy student organizations in many ways. Our partners at ExxonMobil stand in as mentors for our Blarglefish Robotics team. Assisting with the mechanical build of the robot and sponsoring materials and supplies for the team. They assist our W.I.T. (Work Based Industry Training) student honors organization by providing guest speakers for classrooms, reward celebrations for attendance and grades, field experiences, and virtual job shadows. Exxon's involvement with our student organizations has allowed them to thrive and be true student leaders and ambassadors for STEM.

Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Student access to business and industry partners and work-based learning facilities, services, and resources.

ExxonMobil hosts the National Manufacturing Day every year for our Academy students. Our students will tour several Exxon facilities, talk to a variety of Exxon employees such as: Scientists, Researchers and Engineers. The students also have the opportunity to participate in a few experiments in the lab. Exxon has provided guest speakers for several different events: STEM Summer Bridge, Career Night, Orientation and they speak to our engineering classes, primarily to prepare the students for after high school and to recruit and retain females in the STEM program.

Describe how the Business/Industry articulation agreement addresses the following Business/Industry Blueprint Requirements: Transportation fees and costs.

ExxonMobil sponsors most of our registration fees and meals if any costs are included. The school district provides the bus transportation to the facilities.

Alignment, Work-Based Learning

Regional Workforce Alignment

List the regional high-demand occupations your academy intends to address through selected program(s) of study and work-based learning.

Regional High-Demand Occupation

Electrical Engineers

Chemical Engineers

Electro-Mechanical Technicians

Environmental Engineers

Instrumentation Technicians

Work-Based Learning

Complete the activity tables below illustrating the work-based learning activities that your academy plans to offer students at each grade level. Please ensure the activities are STEM focused.

Add up to three activities offered to 9th grade students.

9th Grade Activities

Virtual Job Shadow through NEPRIS

Add up to three activities offered to 10th grade students.

10th Grade Activities

Virtual Job Shadow though Nepris

National Manufacturing Day

Add up to three activities offered to 11th grade students.

11th Grade Activities

Virtual Job Shadow through Nepris

Women in Industry Conference

ExxonMobil Guest Speakers

Add up to three activities offered to 12th grade students.**12th Grade Activities**

Virtual Job Shadow through Nepris

Women in Industry Conference

Samsung Controls Facilities Tour

Narratives: Advanced Academics

Advanced Academics

Select the type of advanced courses (dual credit/AP/IB) your campus plans to offer students in 2021-2022.

DC

AP

What type of dual credit courses does your campus plan to offer?

WECM

AGCM

Describe any challenges in ensuring your academy has educators with qualification to teach dual credit. What steps did your academy take to address the need?

For the Technical Dual Credit classes, we are using Lee College Instructors. For the Academic Dual credit courses, when there is a vacancy, the job description states the candidate must be qualified to teach dual credit. Currently all of our Dual Credit courses are being taught by qualified instructors and there are not any foreseen vacancies. In the case of a vacancy, we have utilized Lee College instructors for the core classes. Historically they commute to our campus, if that is not an option the district would provide shuttle services for the students to attend classes at Lee College.

Is the academy a TSIA testing site?

No

Narratives: STEM-Focused Extracurriculars, Curriculum and Support

Curriculum and Support

Provide examples of how the campus plans to provide students with academic services. List activities and brief descriptions of the activities. Add a new row for each provided service.

Activity	Description
STEM Academy Orientation	This is an informative session provided for incoming 9th grade parents and students.
STEM Summer Bridge	Introduction to the STEM Academy for incoming 9th graders.
4-Year Plan Review	The CTE Specialist reviews the students' 4-year plans to make sure they are on track.
GANDER Time	Built in intervention or enrichment time twice a week.

Provide examples of how the campus plans to provide students with wrap-around services. List activities and brief descriptions of the activities. Add a new row for each wrap-around service.

Activity	Description
STEM Academy Social	To build Academy culture and engage students.
Parent Nights	Virtual informative sessions held once a semester.
Parent Liaison on Advisory Board	There is a parent represented as a voting member.
Student Liaison on Advisory Board	There is a student represented as a voting member.
STEM Academy Ambassadors	The student leaders of the academy.

How does your academy use the access, achievement, and attainment data for program improvement?

This data is reviewed annually by the Academy teachers, and Advisory board. After reviewing the data

the advisory board will begin discussions to set the new Academy goals for the upcoming year. All stakeholders have a voice on the advisory board, so once an agreement is reached, the goals are voted on and shared with the rest of the community. The Advisory Board typically sets three goals a year to focus on areas of need within the STEM Academy. For example, after reviewing academy demographic data, it was evident that we were lacking females in the academy. So the Advisory Board set a goal for the recruitment and retention of females in the STEM Academy.

STEM-Focused Extracurriculars

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

All of career and technical programs utilize our district CTE framework for program evaluation. This framework specifically outlines appropriate extracurricular activities and organizations for our district's CTE students. In the STEM Academy, we have several students that participate in the TAPIA STEM Camp held at Rice University that takes place over the course of two Saturdays. We also have three student organizations: W.I.T. (Work based Industry Training), TSA (Technology Student Association) and the Blarglefish Robotics team. All of these organizations offer the students community service, leadership, scholarship and competitive opportunities.

Narratives: Leadership Team

Leadership Team

List the Leadership Team's three priorities for the next year and describe how the selected priority contributes to the academy's success. Each priority should be a benchmark from the ECHS/T-STEM/P-TECH Blueprint.

Benchmark	Description
Crosswalking PTEC DC Courses	We would like to offer another industry certification as a process technician.
Implementing PBL	Our teachers are attending a year long PBL workshop through RTI.
Renewable Energy Pathway	Get this off the ground. It will be the first year for us to include this pathway.

Narratives: Benchmark 1 Products, Benchmark 2 Products, Benchmark 3 Products, Benchmark 4 Products, Benchmark 5 Products, Benchmark 6 Products, Benchmark Products

Benchmark Products

Benchmark 1 Products

Provide a link to the academy's mentor/induction program plans.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's annual training or professional development plan with the academy and IHE faculty

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's leadership meeting agendas and notes.

<https://stemacademyrel.weebly.com/benchmarks.html>

Benchmark 2 Products

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

<https://stemacademyrel.weebly.com/benchmarks.html>

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://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's brochures and marketing in Spanish, English, and/or other relevant languages.

<https://stemacademyrel.weebly.com/benchmarks.html>

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://stemacademyrel.weebly.com/benchmarks.html>

Benchmark 3 Products

Provide a link to the academy's meeting agendas and minutes, with action items and decision logs.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's final, signed, and executed MOU with their industry partner/business.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's final, signed, and executed MOU with their IHE

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's list of strategic partners with each member's organization, title and role in providing work-based learning for students by grade level.

<https://stemacademyrel.weebly.com/benchmarks.html>

Benchmark 4 Products

Provide a link to the academy's four-year crosswalk document

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's master schedule.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's curriculum alignment documents.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's testing calendar and schedule for TSI, ACT, SAT or other assessments.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's documentation detailing a minimum of three course of study examples that outline student pathways from high school, to associate degrees, to work credential and beyond.

<https://stemacademyrel.weebly.com/benchmarks.html>

Benchmark 5 Products

Provide a link to the academy's documentation of appropriate work-based learning experiences for students at all grade levels.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's current dated regional high demand occupation list.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's aggregate data describing student participation in work-based learning experiences as well as percentage of students earning industry certification and credentials by type.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's samples of student artifacts such as writing, portfolios, presentations, or links to digital content.

<https://stemacademyrel.weebly.com/benchmarks.html>

Benchmark 6 Products

Provide a link to the academy's bridge program calendar and curricula.

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link the academy's tutoring and other intervention/remediation program schedules,

<https://stemacademyrel.weebly.com/benchmarks.html>

Provide a link to the academy's calendar of family outreach events.

<https://stemacademyrel.weebly.com/benchmarks.html>
