2020-2022 P-TECH and ICIA Planning and Implementation Grant
COMPETITIVE GRANT Application Due 5:00 p.m. CT, December 10, 2019

Texas Education Agency

NOGA ID

Authorizing legislation: **General Appropriations Act, Article II, Rider 66, 86th Texas Legislature**

Applicants must submit one original copy of the application **and** two copies of the application (for a **total of three copies of the application**). All three copies of the application MUST bear the signature of a person authorized to bind the applicant to a contractual agreement. **Applications cannot be emailed.** Applications must be received no later than the above-listed application due date and time at:

Document Control Center, Grants Administration Division
Texas Education Agency
1701 N. Congress Avenue
Austin, TX 78701-1494

Application submission date and time

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Grant period from **March 1, 2020 to July 8, 2022**

[X] Pre-award costs are not permitted.

Required Attachments

1. **Attachment 1 (as detailed on page 14 of the Program Guidelines)**
2. **Attachment 2 (as detailed on page 14 of the Program Guidelines)**

Amendment Number

Amendment number (For amendments only; enter N/A when completing this form to apply for grant funds):

Applicant Information

Organization	Southwest ISD	CDN	015912	Vendor ID		ESC	20	DUNS	
Address	11914 Dragon Lane	City	San Antonio	ZIP	78252	Phone	210-622-4300		
Primary Contact	Zelene Aragon	Email	zaragon7753@swisd.net			Phone	210-622-4335		
Secondary Contact	Dr. Aja Gardner	Email	agardner7283@swisd.net			Phone	210-622-4810		

Certification and Incorporation

I understand that this application constitutes an offer and, if accepted by TEA or renegotiated to acceptance, will form a binding agreement. I hereby certify that the information contained in this application is, to the best of my knowledge, correct and that the organization named above has authorized me as its representative to obligate this organization in a legally binding contractual agreement. I certify that any ensuing program and activity will be conducted in accordance and compliance with all applicable federal and state laws and regulations.

I further certify my acceptance of the requirements conveyed in the following portions of the grant application, as applicable, and that these documents are incorporated by reference as part of the grant application and Notice of Grant Award (NOGA):

- [x] Grant application, guidelines, and instructions
- [x] General Provisions and Assurances
- [ ] Application-specific Provisions and Assurances
- [x] Debarment and Suspension Certification
- [x] Lobbying Certification
- [ ] ESSA Provisions and Assurances requirements

Authorized Official Name	Dr. Lloyd Verstuyft	Title	Superintendent
Email	lverstuyft@swisd.net	Phone	210-622-4300
Signature		Date	12/8/19
Grant Writer Name	Rosena Garcia	Signature	
Date	12/8/19		

○ Grant writer is an employee of the applicant organization. ◉ Grant writer is **not** an employee of the applicant organization.

2020-000873

701-20-106-026

Shared Services Arrangements

[X] Shared services arrangements (SSAs) are **not** permitted for this grant.

Identify/Address Needs

List up to three quantifiable needs, as identified in your needs assessment, that these program funds will address. Describe your plan for addressing each need.

Quantifiable Need	Plan for Addressing Need
During the 2018-19 academic year, Southwest ISD's economically disadvantaged student population was 85.1%.	Implementing a P-TECH campus with a focus on high-skill, high-wage, high demand pathways will provide students with exposure to regional industries that could introduce them to viable career options that should significantly influence their long-term, sustainable living wages.
Southwest ISD now remains the sole school district in San Antonio's south side without an Early College High School option. This has limited much-needed access to its students from attaining an associate degree.	Implementing a P-TECH campus, will remove unnecessary barriers for students in attaining industry certifications, part-taking in work-based learning activities, be mentored by regional industry leaders, and attaining a coveted associate degree in workforce areas or continue their education toward a bachelors degree.
Of the 2018 HS graduates from Southwest ISD only 42% enrolled in an institution of higher education the fall semester after their high school graduation. (Source: Texas Higher Education Coordinating Board)	By providing students with high demand degree plans and support systems while in high school, students are more likely to successfully complete an associate degree and be well positioned to continue their education through a bachelor's degree, if they desire.

SMART Goal

Describe the summative SMART goal you have identified for this program (a goal that is Specific, Measurable, Achievable, Relevant, and Timely), either related to student outcome or consistent with the purpose of the grant.

CAST STEM High School will establish a P-TECH program that will engage its students in Engineering and Advanced Manufacturing post-secondary programs. By the beginning of the 2021-2022 academic year, CAST STEM HS will select and enroll at least 75 students in 9th grade and 75 students in the 10th grade P-TECH cohorts. Each of these post-secondary programs will yield students industry certifications, work-based learning experiences and an associate degree opportunities that will either lead them either into the workforce or pursue a bachelor's degree. The CAST STEM P-TECH Leadership Team will develop a time line that will chart the course toward the implementation of CAST STEM P-TECH's first cohort beginning in the Fall of 2021.

Measurable Progress

Identify the benchmarks that you will use at the end of the first three grant quarters to measure progress toward meeting the process and implementation goals defined for the grant.

First-Quarter Benchmark

1. Solidify CAST STEM P-TECH Leadership Team; 2. Conduct academic data analysis on implementation cohorts; 3. Develop strategies to meet Blueprint; 4. Analyze OBMs and plot on time line and identify roles & responsibilities to ensure campus meets targets; 5. Identify Community Support Leadership Team; 6. Engage Community Support Leadership Team in Recruitment, Communications and Marketing Planning; 7. Plan communications / marketing strategy; 8. Schedule Leadership Team meetings for the year; 9. Schedule Community Support Leadership Team meetings for the year; 10. Establish a website to document the time line, activities with roles and responsibilities; 11. Establish professional development plan with middle school teachers so students learn about career pathways prior entering to high school

Measurable Progress (Cont.)

Second-Quarter Benchmark

1. Ensure alignment of degree plan and crosswalk with IHE partner; 2. Identify college courses and SWISD or IHE instructors for degree plans; 3. Plan / Develop MOU with IHE and Leadership team; 4. Plan recruitment strategy with communications / marketing planning and roles & responsibilities; 5. Determine budget needs and identify funding; 6. Launch communications / marketing plan; 7. Hold family and community nights at designated sites; 8. Plan and create the master schedule that reflects support systems for students; 9. Hold P-TECH lottery for available seats for each career pathway;

Third-Quarter Benchmark

1. Finalize P-TECH MOU; 2. Procure all required items, including supplies, course materials / supplies for the Fall 2020 launch 3. Prepare and submit P-TECH designation application; 4. Hold summer bridge with student cohort; 5. Administer TSI assessment to student cohort; 6. Provide tutoring / academic intervention sessions for students in need of support

Project Evaluation and Modification

Describe how you will use project evaluation data to determine when and how to modify your program. If your benchmarks or summative SMART goals do not show progress, describe how you will use evaluation data to modify your program for sustainability.

Monthly meetings with Leadership Team will be held to review and address curricular, academic, student recruitment, faculty, socio-emotional and other student performance data. Student case loads will be assigned to faculty on staff so students can check in on a weekly or more frequent basis, if needed. Metrics will be established by the Leadership Team to track student progress, including productive grade rates, attendance, tutoring attendance, assignment/test grades on both high school and college courses. Reports will be provided to the Leadership Team during regular meeting times to address any students in need of assistance. The ongoing reports will guide the campus administration on where to devote time and efforts toward student success.

Assigned faculty will check in with students on a weekly basis to ensure their assignments are submitted on time and that they remain on track with their plan to graduate with multiple credentials. The assigned faculty will submit electronic reports that will be monitored by both the Campus Administration and reviewed by the Leadership Team. The reports will track academic progress but may also include early alerts for socio-emotional well-being. As a substantial number of students in this program may be coming from economically disadvantaged or first-generation college going families, structured times will be provided during identified high school class times to ensure that students develop study skills and time management to devote to their classes.

Tutoring and other intervention services will be available for students to ensure that they stay on track with their cohort to successfully complete each of their designated certifications, work-based learning experiences, high school diploma and college degree. Training sessions for parents will be provided on what to ask their students, how to monitor their progress and how to report anything to the Campus Administration when students fall behind or are in need of assistance.

Statutory/Program Assurances

The following assurances apply to this grant program. In order to meet the requirements of the grant, the grantee must comply with these assurances.

Check each of the following boxes to indicate your compliance.

☒ The applicant provides assurance that program funds will supplement (increase the level of service), and not supplant (replace) state mandates, State Board of Education rules, and activities previously conducted with state or local funds. The applicant provides assurance that state or local funds may not be decreased or diverted for other purposes merely because of the availability of these funds. The applicant provides assurance that program services and activities to be funded from this grant will be supplementary to existing services and activities and will not be used for any services or activities required by state law, State Board of Education rules, or local policy.

☒ The applicant provides assurance that the application does not contain any information that would be protected by the Family Educational Rights and Privacy Act (FERPA) from general release to the public.

☒ The applicant provides assurance to adhere to all Statutory Requirements and TEA Program Requirements as noted in the 2020-2022 P-TECH and ICIA Planning and Implementation Program Guidelines.

☒ The applicant provides assurance to adhere to all Performance Measures, as noted in the 2020-2022 P-TECH and ICIA Planning and Implementation Program Guidelines, and shall provide the Texas Education Agency, upon request, any performance data necessary to assess the success of the program.

☒ The grantee will develop a P-TECH and ICIA Implementation Plan, based on the P-TECH and ICIA Blueprint and in the template format to be provided by TEA, which will be submitted to TEA for review and approval prior to applying for the 2021-2022 P-TECH and ICIA designation.

THE FOLLOWING ASSURANCES ARE REQUIRED BY STATUTE:

☒ P-TECH and ICIA schools will provide participating students with flexibility in class scheduling and academic mentoring.

☒ The P-TECH and ICIA school will be open enrollment. Enrollment decisions will not be based on state assessment scores, discipline, history, teacher recommendations, minimum grade point average (GPA) or any other criteria that create barriers for student enrollment.

☒ P-TECH and ICIA schools will allow participating students to complete high school and, on or before the sixth anniversary of the date of the student's first day of high school: receive a high school diploma, an associate degree, a two-year postsecondary certificate, or industry certification; and complete work-based education through an internship, apprenticeship, or other job training program.

☒ P-TECH and ICIA program will be provided at no cost to participating students.

☒ P-TECH and ICIA schools will ensure that the students are entitled to the benefits of the Foundation School Program in proportion to the amount of time spent by the student on high school courses, in accordance with rules adopted by the commissioner, while completing the program/course of study established by the applicable IHE articulation agreement or Industry/Business Partner memorandum of understanding.

Statutory Requirements

1. Describe the recruitment and enrollment plan. Include a general timeline and describe the specific activities planned to serve the target population.

Apr/May-Summer Bridge 2020 Planning; Start TSI testing; Identify Roles & Responsibilities; Set timeline with tasks; Solidify Leadership Team at SWISD & IHE; Plan HS master schedule; Conduct academic data analysis on implementation cohorts; Jun/Jul-Hold Summer Bridge 2020; Continue TSI Testing; Use student data to ensure students are aligned for success; Develop strategies to meet Blueprint; Analyze OBMs and plot on timeline and identify roles & responsibilities to ensure campus meets targets; Aug/Sep-Ensure alignment of degree plan and crosswalk with IHE partner; Plan year-long work-based learning activities with business partners; Identify college courses w/SWISD or IHE instructors for degree plans; Identify Community Support Leadership Team; Plan recruitment strategy with communications/marketing planning; Oct/Nov-Develop MOU w/IHE and Leadership team; Launch student recruitment; visit middle schools; Dec-Mar-plan budget/identify funding; procure items for fall 2020; review student applications, select&enroll P-TECH students into HS&DC classes.

Statutory Requirements (Cont.)

2. Describe the course of study that the school is planning to offer and how it expands upon current offerings. Include how the course of study will enable a student to combine high school courses and postsecondary courses and identify crosswalks, sequence of courses, degrees/certificate/certifications earned, and work-based education that will be available to students at every grade level. Describe how the selected course of study will address regional workforce needs.

The prescribed degree plans for both pathways incorporate dual credit courses leading toward the high school graduation program's Distinguished Achievement Plan.
ENGINEERING: CAST STEM HS is a Project Lead the Way campus and provides HS credit courses and hands on experiences in various engineering fields, including robotics. The Engineering pathway will lead students to an Associate of Science degree that students could use to transfer toward their bachelor's degree. See Attachment #1 - Crosswalk Template for details on the sequence of courses. Sample courses include: Intro to Engineering, Public Speaking, General Physics, and Computer Programming for Engineering Applications. Students will attain the following industry certifications: OSHA 10-hour and Autodesk Certified User (ACU). MANUFACTURING: Students in this pathway will earn an Advanced Manufacturing Technology (AMT) Associate of Applied Science. Courses in this degree plan include: DC-AC Circuits; Basic Fluid Power; Pumps, Compressors and Mechanical Drives; Intro to Economics; Composition I; AC/DC Motor Control; Electromechanical Devices; Basic Machine Shop I; Theatre Appreciation; Intro to Computers; Robotic Fundamentals; Instrumentation Systems Installation; Programmable Logic Controllers; Intro to Shielded Metal Arc Welding; Practicum; Instrumentation Systems Troubleshooting; Robot Programming and Diagnostics; Introductory Physics I; and College Algebra. Students will attain the following industry certifications: OSHA 10-hour and Packaging Machinery Manufacturers Institute (PMMI) Mechatronics Certifications including Fluid Power 1, Industrial Electricity 1 & 2, Programmable Logic Controllers (PLCs) 1 and others. Attachment #3- Work-based education matrix describes the activities where students will engage with industry partners and through competitions and industry based projects that support the pathways. Students will job shadow industry partners at their respective work sites, take on-site tours of facilities with the types of jobs in this program, learn about current topics, industry challenges and share possible solutions from a high school student's perspective with professionals from the respective industries. Students will also learn soft-skills, social etiquette, make presentations to industry leaders, and prepare their portfolios and resumes. Human Resources professionals from our network of professionals will conduct mock interviews so students can begin to prepare to enter the workforce.

3. Name the IHE and describe how the proposed program will meet the requirements for the partnership with the IHE.

Palo Alto College (PAC) is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award Associate of Science degrees. PAC received its accreditation by SACSCOC on January 1987 and received a reaffirmation status in 2012. In Fall 2018, 78.1% of its 9,852-student enrollment was Hispanic and 28.9% were enrolled in dual credit / high school programs.

St. Philip's College (SPC) is accredited by the SACSCOC to award Associate of Applied Science degrees. SPC received its accreditation by SACSCOC on January 1951 and received a reaffirmation status in 2017. During the 2018 academic year, 89.2% of student graduates in technical areas were employed or enrolled within six months of graduation and 90.9% passed licensure exams. In Fall 2018, 58.7% of the students attending SPC were Hispanic, while 10.9% were African American and 30.2% were students enrolled in dual credit / high school programs. SPC provides workforce training that meets or exceeds certification requirements from national organizations, including the National Association of Manufacturers (NAM).

Community colleges provide workforce training and lower division, academic transfer courses to various audiences in their communities. They have embraced dual credit programs as a means to improving access for students with diverse needs, including under prepared and economically disadvantaged. The selected P-TECH pathways, Advanced Manufacturing and Engineering, are programs that have been offered at the respective partner Colleges for several years. Graduates from each of these pathways will contribute to the human capital needs of regional business partners and the San Antonio economy.

Statutory Requirements (Cont.)

4. Name the regional industry or business partner and describe how the proposed program will meet the requirements for the partnership with the industry/business partner.

The regional industries that we propose to support are Advanced Manufacturing and Engineering. Our identified industry partners include: Toyota, CPS Energy, H-E-B, HOLT CAT, Zachry Group, Caterpillar, Standard Aero, E02 Concepts, Associated Builders and Contractors, and Port San Antonio. It is widely documented that the Baby Boomer generation started to turn 65 beginning in 2011 and will continue through 2030. This momentous part of our workforce will undoubtedly have a significant impact on workloads and vacancies across several industries, including those selected for this P-TECH program. This program seeks to provide workforce relief by securing talent for these regional industries. Regional employment projections between 2016-2026: Mechanical Engineering Technicians +19.28%; Mechanical Drafters +18.68%; Electrical and Electronic Engineering Technicians +13.45%; Industrial Engineering Technicians +12.86%; Industrial Engineers +24.04%; Civil Engineers +22.17%; Chemical Engineers +22.14%; Mechanical Engineers +20.9%; and Electrical Engineers +19.0%. Students having prior knowledge about jobs in these industries and the potential earnings will better prepare them to enter the workforce significantly earlier than if students wait until after high school graduation.

TEA Program Requirements

1. Describe the current leadership team. Include a list of the individuals and their titles, along with how often the leadership team will meet, the dates of meetings that have already been held, any upcoming meetings, and agenda topics.

P-TECH Leadership Team is comprised of both district and campus leadership to ensure that all required support systems are addressed. District level - Dalila Garcia, Assistant Superintendent of Curriculum and Instruction; Zelene Aragon, Executive Director of Secondary; Crissy Franco, Director of CTE; Jacque Rodriguez, Director of Advanced Academics; Luis Gonzalez, Director of Guidance and Counseling; and Elisha Frausto, CCMR Coordinator; Campus level - Dr. Aja Gardner, CAST STEM Principal; David Boggio, Asst Principal; and Robert Victoria, HS Counselor.
In anticipation of the P-TECH designation, the P-TECH Leadership Team began to meet prior to the start of the fall semester of the 2019-20 school year. The following dates reflect meetings that had taken place with the related agenda discussion items. 8/2- Alamo Colleges District RFP review and application submission of future ECHS or PTECHs; 9/16- CTE Pathways of Study and P-TECH updates; 9/23- CCMR Kick-Off, P-TECH Pathway meeting; 10/9-P-TECH with MS Principals and CCMR MS plan; 10/11- Review of P-TECH application sections 1 and 6, dates for P-TECH Campus and District Leadership meetings; 10/18- P-TECH proposed pathways review and time line review, Community and District PR for P-TECH and deliverables; 10-25-timeline review, updates, master schedule and deliverables; 10/28- P-TECH updates and deliverables; 11/1- P-TECH updates and deliverables; and 11/15- P-TECH check in and review of application;
The P-TECH Leadership Team will meet at least twice per month during the P-TECH's Planning Year and incorporate staff from the respective colleges. The first two meetings will be dedicated to charting the time line with dates for milestones, deliverables / outcomes and assignment of responsible staff.

2. Describe the current wrap-around strategies and services the campus is offering, as well as the additional strategies and services that are planned to support P-TECH.

Currently, the AVID class provides support on time management, effective note-taking, and staying organized. The campus will provide summer bridge programs that will provide in-depth instruction and support on sections of the TSIA. This foundational bridge program will extend into the academic school year during the school day. The campus master schedule will include a period during the day to provide academic support to students who have not passed their TSIA or who are taking college courses. A campus tutoring center will be established and upper-level high school students and college students will serve as tutors to the 9th-grade cohort and others thereafter. Discipline-specific teachers will identify and create modules that students can access 24/7. The students will utilize college-specific academic resources available to all students, including electronic library databases for academic research, 24/7 online tutorial resources, face to face college tutoring services, and college computer labs that contain course-specific software to work on projects. The campus will establish a method for students to check in with assigned staff to ensure that they have submitted assignments and are not having issues, academic, socio-emotional or otherwise. The campus will also hold periodic sessions on how to effectively communicate with their instructors, how to follow up when they have concerns, and understand the college's academic policies and procedures.

CDN 015912 Vendor ID Amendment #

Equitable Access and Participation

Check the appropriate box below to indicate whether any barriers exist to equitable access and participation for any groups that receive services funded by this grant.

- (●) The applicant assures that no barriers exist to equitable access and participation for any groups receiving services funded by this grant.
- ( ) Barriers exist to equitable access and participation for the following groups receiving services funded by this grant, as described below.

Group		Barrier	
Group		Barrier	
Group		Barrier	
Group		Barrier	

PNP Equitable Services

Are any private nonprofit schools located within the applicant's boundaries?

(●) Yes ( ) No

If you answered "No" to the preceding question, stop here. You have completed the section. Proceed to the next page.

Are any private nonprofit schools participating in the grant?

( ) Yes ( ) No

If you answered "No" to the preceding question, stop here. You have completed the section. Proceed to the next page.

5A: Assurances

- ☐ The LEA assures that it discussed all consultation requirements as listed in Section 1117(b)(1) and/or Section 8501(c)(1), as applicable, with all eligible private nonprofit schools located within the LEA's boundaries.
- ☒ The LEA assures the appropriate Affirmations of Consultation will be provided to TEA's PNP Ombudsman in the manner and time requested.

5B: Equitable Services Calculation

1. LEA's student enrollment	13,733
2. Enrollment of all participating private schools	877
3. Total enrollment of LEA and all participating PNPs (line 1 plus line 2)	14,610
4. Total current-year grant allocation	0
5. LEA reservation for direct administrative costs, not to exceed the grant's defined limit	8,218
6. Total LEA amount for provision of ESSA PNP equitable services (line 4 minus line 5)	8,218
7. Per-pupil LEA amount for provision of ESSA PNP equitable services (line 6 divided by line 3)	1
LEA's total required ESSA PNP equitable services reservation (line 7 times line 2)	493

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Request for Grant Funds

List all of the allowable grant-related activities for which you are requesting grant funds. Include the amounts budgeted for each activity. Group similar activities and costs together under the appropriate heading. During negotiation, you will be required to budget your planned expenditures on a separate attachment provided by TEA.

	Description of Activity or Cost	Amount Budgeted
	Payroll Costs	
1.		
2.		
3.		
4.		
	Professional and Contracted Services	
5.	AutoCAD Software Subcription	$2,000
6.	Academic Intervention Support Software	$26,882
7.		
8.		
9.		
	Supplies and Materials	
10.	3D Printer Supplies	$10,000
11.	Manufacturing Tools	$15,000
12.	Industry Certification Vouchers and Training Materials	$37,500
13.		
	Other Operating Costs (include direct and indirect administrative costs, if allowable)	
14.		
15.		
16.		
	Capital Outlay	
17.	Computer Lab with Printers	$70,400
18.	Lab Furniture	$30,000
	Indirect Costs	$8,218
	Total grant award requested	$200,000

ATTACHMENT #1: 2020-2022 P-TECH AND ICIA PLANNING AND IMPLEMENTATION GRANT

Crosswalk Template

You may delete or expand rows but do not exceed one page

CDN: 015912

Program of Study	IHE Partner	Program Previously Offered in District? (Y/N)	Expected Program Student Outcomes
Engineering	Palo Alto College	Y	Associate Degree, Industry Certifications and Work-Based Learning

Year / Grade Level	High School Course			Post-Secondary Course		
	PEIMS Course/Code #	High School Course Name	High School Credits	Texas Common Course Numbering System Number	College Course Name	College Credit Hours
Year 0 / Grade 8 & Summer	03100500/03100700	Algebra I & Geometry	1/1			
		Total Year 0 High School Credits	2.0		Total Year 0 College Credit Hours	
Year 1 / Grade 9	03220100	English I	1			
Year 1 / Grade 9	03010200	Biology	1			
Year 1 / Grade 9	03100600	Algebra II	1			
Year 1 / Grade 9	A3360100	AP Human Geography	1			
Year 1 / Grade 9	N1290001	AVID I / LOTE *(Edgenuity)*	1			
Year 1 / Grade 9	03580395	Robotics I	1			
Year 1 / Grade 9	N1303742	PLTW – Intro to Eng Design	1			
Year 1 / Grade 9	N1290010 / 03250100	Student Leadership / Theater	.5/1.0	BMGT 1307 / DRAM 1310	Team Building / Theatre Appreciation	3 / 3
Year 1 / Grade 9	N1150043/N1150046	Comp. Wellness I/Comp. Wellness II	.5/.5			
		Total Year 1 High School Credits	9.5		Total Year1 College Credit Hours	6
Year 2/ Grade 10	03220200	English II	1			
Year 2/ Grade 10	03040000	Chemistry	1			
Year 2/ Grade 10	03101100	Pre-Calculus	1	MATH 1414/MATH 2412	College Alg/PreCal	4/4
Year 2/ Grade 10	A3370100	World History AP	1			
Year 2/ Grade 10	N1290002	AVID II/LOTE (Edgenuity)	1			
Year 2/ Grade 10	N1303745	PLTW Aerospace Eng	1			
Year 2/ Grade 10	13037500	PLTW Principles of Engineering	1			
Year 2/ Grade 10	13036200 / 03240900	Principles of Applied Engineering / Public Speaking	.5/.5	ENGR 1201 / SPCH 1315	Intro to Engineering / Public Speaking	2 / 3
		Total Year 2 High School Credits	8		Total Year 2 College Credit Hours	13
Year 3/Grade 11	03220300	English III	1	ENGL 1301 / ENGL 1302	Composition I / Composition II	3 / 3
Year 3/Grade 11	03050000	Physics I	1	PHYS 1401		
Year 3/Grade 11	03102500	Calculus I DC	1	MATH 2413	Calculus I	4
Year 3/Grade 11	03340100	US History	1	HIST 1301 / HIST 1302	US History I / US History II	3 / 3
Year 3/Grade 11	N1303748	PLTW Computer Int Manftg	1			
Year 3/Grade 11	N1303747	PLTW Civil Engineering	1			
Year 3/Grade 11	13037300	Engineering Design & Prob Slvg	1			
Year 3/Grade 11	TBD	Engineering Graphics	TBD	ENGR 1304	Engineering Graphics I	3
Year 3/Grade 11	03380002	Texas Government	.5	GOVT 2306	Texas Government	3
		Total Year 3 High School Credits	7.5		Total Year 3 College Credit Hours	22
Year 4/Grade 12	03220400	English IV	1	ENGL 2322 / ENGL 2323	British Literature I / British Literature II	3 / 3
Year 4/Grade 12	03102502	Calculus II DC	1	MATH 2414	Calculus II	4
Year 4/Grade 12	TBD/ TBD	Physics II / Computer Prgrmng for Engineering Applications	TBD / TBD	PHYS 1402 / ENGR 2304	General Physics II / Computer Prgrmng for Engineering Applications	4 / 3
Year 4/Grade 12	13037600	PLTW Digital Elec	1			
Year 4/Grade 12	03330100 / 03310300	Government / Economics	.5 / .5	GOVT 2305 / ECON 2301	Federal Government / Principles of Macroeconomics	3 / 3
Year 4/Grade 12	N1303749	PLTW Eng Desn & Dev	1			
Year 4/Grade 12	13037400	STEM Pract	2			
Year 4/Grade 12	TBD / TBD	Mechs I: Statistics / Mechs II: Dynamics	TBD / TBD	ENGR 2301 / ENGR 2302	Mechs I: Statistics / Mechs II: Dynamics	3 / 3
		Total Year 4 High School Credits	7		Total Year 4 College Credit Hours	29
		Total Years 5 &6 High School Credits			Total Years 5 &6 College Credit Hours	
		Total High School Credits	34		Total College Credit Hours	70

Certification (s) to be earned by high school graduation:	
Degree (s) to be earned by high school graduation:	Associate of Science

TOYOTA

Toyota Motor Manufacturing, Texas, Inc.
1 Lone Star Pass
San Antonio, TX 78264
210-263-4001

December 9, 2019

Dear Dr. Verstuyft,

I write on behalf of Toyota Motor Manufacturing, Texas in support of Southwest ISD – CAST STEM High School's P-TECH grant proposal to the Texas Education Agency to establish and provide seed funding for a Pathways in Technology Early College High School (P-TECH). We strongly support this grant application and the focus on educating and preparing high school students in areas of Advanced Manufacturing and Engineering.

Through this letter, we acknowledge specific roles and responsibilities we will fulfill in this partnership. In anticipation of your proposal being funded, we will support CAST STEM's P-TECH program by providing career mentors, subject matter experts, industry tours and internships.

Toyota Texas takes pride in the commitment and involvement in our community and are proud to support this initiative. We will continue to pledge our support for your efforts in educating the youth in our community.

Sincerely,

Mary Batch
Manager Talent Management
Human Resources

Employment Projections 2016 - 2026
Manufacturing Engineering

Area	SOC Code	Occupation Title	Estimated Employment (2016)	Projected Employment (2026)	Change in Employment	Percentage Change	Annualized Percent Growth	Annual Exits	Annual Transfers	Annual Openings	Education	Experience	Training	Occupation Level Classification	Hierarchical Ordering
Alamo	17-3027	Mechanical Engineering Technicians	249	297	48	19.28	1.78	9	14	28	Associate's degree	None	None	Detail Occupation	1
Alamo	17-3013	Mechanical Drafters	348	413	65	18.68	1.73	11	20	37	Associate's degree	None	None	Detail Occupation	1
Alamo	17-3019	Drafters, All Other	153	180	27	17.65	1.64	5	9	17	Associate's degree	None	None	Detail Occupation	1
Alamo	17-3023	Electrical and Electronic Engineering Technicians	855	970	115	13.45	1.27	29	48	89	Associate's degree	None	None	Detail Occupation	1
Alamo	17-3026	Industrial Engineering Technicians	140	158	18	12.86	1.22	5	8	15	Associate's degree	None	None	Detail Occupation	1
Alamo	17-2112	Industrial Engineers	757	939	182	24.04	2.18	19	35	72	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2051	Civil Engineers	1,385	1,692	307	22.17	2.02	33	76	140	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2041	Chemical Engineers	131	160	29	22.14	2.02	3	6	12	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2141	Mechanical Engineers	732	885	153	20.9	1.92	16	34	65	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2071	Electrical Engineers	1,016	1,209	193	19	1.75	25	44	88	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2131	Materials Engineers	93	110	17	18.28	1.69	3	4	9	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2011	Aerospace Engineers	230	263	33	14.35	1.35	6	9	18	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2199	Engineers, All Other	618	701	83	13.43	1.27	15	27	50	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2081	Environmental Engineers	228	258	30	13.16	1.24	6	10	19	Bachelor's degree	None	None	Detail Occupation	1
Alamo	17-2072	Electronics Engineers, Except Computer	615	693	78	12.68	1.2	15	26	49	Bachelor's degree	None	None	Detail Occupation	1
Alamo	11-3051	Industrial Production Managers	614	684	70	11.4	1.09	15	30	52	Bachelor's degree	5 years or more	None	Detail Occupation	1