



**2020-2021 Lone Star STEM Cycle 3 Year 1**  
**Letter of Interest (LOI) Application Due 11:59 p.m. CT, September 7, 2020**

NOGA ID

Authorizing legislation

US Department of Ed Federal Grant P.L. 114-95 IV ESSA EDUCATION INNOVATION AND RESEARCH  
84.411B

This LOI application must be submitted via email to [loiapplications@tea.texas.gov](mailto:loiapplications@tea.texas.gov).

The LOI application may be signed with a digital ID or it may be signed by hand. Both forms of signature are acceptable.

TEA must receive the application by **11:59 p.m. CT, September 7, 2020**.

Application stamp-in date and time

Grant period from **October 1, 2020 - August 31, 2021**

Pre-award costs permitted from **September 30, 2020**

**Required Attachments**

1. Excel workbook with the grant's budget schedules (linked along with this form on the TEA Grants Opportunities page)
2. Applicants must submit the additional attachments as detailed in the Required Attachment section on p. 6 on the Program Guidelines found on [TEA's Grant Opportunities](#) page.

**Amendment Number**

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

N/A

**Applicant Information**

Organization Vanguard Academy CDN 108-808 Campus Beethoven ESC 01 DUNS 145690827

Address 1200 E. Kelly St. City Pharr ZIP 78577 Vendor ID 1742971562

Primary Contact Dr. Narciso Garcia Email n\_garcia@vanguardac.net Phone 956-781-1701

Secondary Contact Cesar Garcia Email ce\_garcia@vanguardac.net Phone 956-781-1701

**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 LOI application, as applicable, and that these documents are incorporated by reference as part of the LOI application and Notice of Grant Award (NOGA):

- ☒ LOI application, guidelines, and instructions ☒ Debarment and Suspension Certification  
☒ General and application-specific Provisions and Assurances ☒ Lobbying Certification

Authorized Official Name Dr. Narciso Garcia Title Superintendent

Email n\_garcia@vanguardac.net Phone 956-781-1701

Signature *Narciso Garcia* Date 8/5/20

**Shared Services Arrangements**

☐ Shared services arrangements (SSAs) are permitted for this grant. **Check the box below if applying as fiscal agent.**

- ☐ The LEA or ESC submitting this application is the fiscal agent of a planned SSA. All participating agencies will enter into a written SSA agreement describing the fiscal agent and SSA member responsibilities. All participants understand that the "Shared Services Arrangement Attachment" must be completed and signed by all SSA members, and submitted to TEA before the NOGA is issued.

**Statutory/Program Assurances**

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

Check each of the following boxes to indicate your compliance.

- ☒ 1. 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 LOI 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.
- ☒ 2. 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.
- ☒ 3. The applicant provides assurance to adhere to all the Statutory and TEA Program requirements as noted in the 2020-2021 Lone Star STEM Cycle 3 Year 1 Program Guidelines.
- ☒ 4. The applicant provides assurance to adhere to all the Performance Measures, as noted in the 2020-2021 Lone Star STEM Cycle 3 Year 1 Program Guidelines, and shall provide to TEA, upon request, any performance data necessary to assess the success of the program.
- ☒ 5. The applicant provides assurance that they accept and will comply with [Every Student Succeeds Act Provisions and Assurances](#) requirements.
- ☒ 6. The applicant assures they understand that 2020-2021 Lone Star STEM Cycle 3 Year 1 applicants cannot request to be placed in the treatment or control group and should apply with the intent to complete the treatment requirements outlined in the LOI.
- ☒ 7. The applicant assures that the district plans to develop or expand a computer science or cybersecurity Program of Study.
- ☒ 8. The applicant assures the T-STEM blueprint components and artifacts as described in the Program Guidelines will be followed.

**Budget Narrative**

Describe how the proposed budget will meet the needs and goals of the program, including for staffing, supplies and materials, contracts, travel, etc. If applicable, include a high-level snapshot of funds currently allocated to similar programs. Include a short narrative describing how adjustments will be made in the future to meet needs.

The administrators of Vanguard Academy and Beethoven Early College High School met to assess the available resources and determine the additional resources necessary to implement a Lone Star Academy that offers cybersecurity and engineering. The steering committee took into account staffing, supplies/materials, contracts, travel and other possible costs to develop a budget to meet the needs and goals of the program. Based on the review/discussion, the charter will increase the number of STEM education opportunities and outcomes for high-needs students in Grades 9-12 with this budget. The counselor will meet with 8th graders to discuss the program and recruit for it. The school currently goes up to Grade 10 but will use a scale-up approach to add Grade 11 in the implementation year and Grade 12 in the continuation year of the grant. This will meet the requirement of targeting 9th graders during the implementation phase as per TEA guidelines. The Lone Star Academy at Beethoven ECHS will create and expand pathways to help students embark on the STEM careers in cybersecurity and engineering. Vanguard Academy is pursuing this grant to meet the projected increase of STEM jobs in Texas, particularly in cybersecurity and engineering. The charter plans to help fill the demand and increase diversity of those graduating with STEM degrees. Females, Hispanics and the economically disadvantaged are also underrepresented in the cybersecurity and engineering fields, and Beethoven ECHS has a huge percentage of Hispanic students (BECHS: 98.0%, State: 52.6%) as well as economically disadvantaged students (BECHS: 80.3%, State: 60.6%). (1 Priority Point) The charter plans to target the charter's female and economically challenged populations and give them the much-needed exposure for a possible career in cybersecurity and/or engineering. (How Budget Will Meet Needs/Goals)

To assist with meeting goals and objectives in this grant, Vanguard Academy currently uses funds from: 1) Title I, 2) CTE, 3) Instructional Materials Allotment (IMA), and 4) Compensatory Education to purchase various curriculum, resources, training, and equipment. (Snapshot of Funds) In order to make adjustments in the future, Vanguard Academy will tap into local funds if needed to continue staff development in the future and to pay for any additional fees needed for the cybersecurity and engineering programs. The leadership team will also be tasked with the continuous monitoring, improvement and sustainability of the Lone Star Academy at Beethoven ECHS. The team will be responsible for ensuring that the correct adjustments are made in the future. (Future Adjustments)

**Statutory/Program Requirements**

1. What type of College Career Readiness School Model (CCRSM) is the campus currently? (T-STEM, P-TECH, ICIA, or ECHS) If not a CCRSM, what model do you plan to operate during the Implementation Year?

Beethoven ECHS is currently classified as a ECHS campus. During the grant program, Vanguard Academy plans to follow T-STEM blueprints. By doing so, the Beethoven ECHS will be able to align with the grant goals and objectives, and follow all T-STEM Benchmarks of 1) School Design, 2) Target Population, 3) Strategic Alliances, 4) Curriculum/Instruction/Assessment, 5) Work-based Learning, and 6) Student Support.



**Statutory/Program Requirements, (cont.)**

2. What CCRSM designation does your district plan to pursue through the Lone Star STEM grant?

Through this grant program the academy will develop a cybersecurity program and extend its engineering program. During the implementation of these pathways, the Beethoven campus will continue to operate as an ECHS College Career Readiness School Model. By doing so, the school will be aligned with the grant goals and objectives, as well as, assist Vanguard Academy in meeting its mission to "prepare students to be successful in their continuing education."

3. What process and information was used to determine which pathway was selected for the 2020-2021 Lone Star STEM Cycle 3 Year 1 grant? Please include any relevant labor market data or documentation.

The process to determine the pathway involved school administrators meeting with STEM teachers and reviewing local and state market data for the STEM Cycle 3 Year 1 grant. According to the Texas Comptroller, the demand for information security analysts is outpacing the supply. Texas's job count in this occupation is expected to grow by more than 39 percent from 2017-2027, which is considerably faster growth than the nation as a whole. This occupation has a near-zero unemployment rate. (<https://comptroller.texas.gov/economy/fiscal-notes/2019/mar/cybersecurity.php>)

After reviewing the data mentioned above, as well as, the additional security needs caused by the COVID-19 pandemic, school administrators and key personnel chose the STEM pathway of cybersecurity and engineering.

**Statutory/Program Requirements, (cont.)**

4. Describe plans for creating strategic alliances with industry partners and IHEs. What is the anticipated role for each IHE, business, and/or community partnership?

Vanguard Academy has created and expanded its strategic alliances with the following IHE and industry partners: South Texas College, Netsync, First RGV, Inc., and Workforce Solutions (Edinburg).

Below is a list of the partnering organizations and their anticipated roles for the grant program:

- IHE: South Texas College - The charter already has an ongoing partnership and established MOU with South Texas College. This college partnership has allowed students to receive both high school and college credit (dual credit) toward an associate and/or bachelor's degree as well as industry certifications or credentials.
- Business/Industry Partner: Netsync - Netsync will host student work-based learning opportunities within the campus through project-based learning. These opportunities will include: 1) work-based learning experiences for students; 2) career mentoring; and networking with business and industry partners and job shadowing. Teachers will also have discussions with the employer to gain insight on teaching strategies to be implemented in the classroom.
- Informal STEM Partner: First RGV, Inc. - This non-profit organization will guide and support the charter with resources, curriculum development, project-based learning, and student/community outreach to ensure a successful academic and career pipeline.
- Workforce Partner: Workforce Solutions (Edinburg) - The agency will continue to identify, create, and maintain a list of in-demand STEM occupations and study programs to structure pathways for students. It will also help students find careers when they are ready to enter the job market.

Moreover, Vanguard Academy will work with each of the aforementioned organizations and include a list of each member's title and role on the charter's website.

5. Identify the type of advanced courses (dual credit/AP/IB) currently implemented on the campus. Has the district identified what postsecondary credit will be available to students through the computer science, cybersecurity, and engineering programs?

Beethoven ECHS does not presently offer advanced courses because it does not yet have the upperclassmen grade levels (11 and 12). However, in Fall 2021, during the implementation year of the grant, the school will open with an 11th grade class and in Fall 2022 it will open with a 12th grade class. Through Vanguard Academy's partnership with South Texas College, students will be able to receive college credit for dual credit courses in several core courses beginning in Grade 10.

Beethoven ECHS will be offering the following dual credit courses:

Cybersecurity: Dual Credit – Taught on campus by H.S. teacher/STC adjunct instructor

- ITSY 1400 Fundamentals of Information Security-STC
- ITSC 2400 Operating System Security-STC

Through the charter's partnership with South Texas College, students will be able to receive college credit for additional cybersecurity and/or engineering courses they pass. Upon successful completion of all the courses, students can receive a certificate in Cybersecurity Specialist or associate of science in Engineering.

Statutory/Program Requirements, (cont.)

6. Describe any planned STEM-focused informal activities (field experiences, clubs, competitions, summer STEM camp, etc.) that will be offered to students, whether they are offered by the school or by a community partner.

Students who enroll in the Lone Star Academy will take part in STEM-focused informal activities to ensure they understand the connection between their work-based learning and academics.

These activities include but are not limited to:

- Tournaments conducted by First RGV, Technology Student Association, Greenpower USA and Cyberpatriot;
- Cybersecurity and engineering day camp and tours conducted by South Texas College; and
- Trips (physical or virtual) to Netsync for career mentoring, job shadowing, and work-based learning experiences.

Additionally, a summer bridge program will also be offered through this program.

To support academics as well as college and career readiness, the Beethoven ECHS will provide after-school and Saturday tutoring if necessary (on campus or remotely). During this time, college readiness and dedicated college application assistance to students will be provided.

**Statutory/Program Requirements (Cont.)**

7. Describe the Academy's plans for implementing an interdisciplinary approach to learning where academic concepts are coupled with real-world experiences through Project or Problem Based Learning (PBL) and/or Engineering Design Challenges that are offered regularly throughout the school year. Please include how the Academy will support and develop teachers in offering this, including considerations for scheduling, professional development, and structures for cross-disciplinary collaboration.

Vanguard Academy will implement an interdisciplinary approach to learning by the expertise of Netsync to provide real-world experiences to students through project-based learning. This is a student-centered approach in which students learn about a subject through active engagement and work collaboratively to solve an open-ended problem. This problem is what drives the motivation and the learning and may include working in teams with leadership roles as well as oral and written communication.

Furthermore, to ensure that each individual student is ready to take on more rigorous classes, the charter will biannually implement a structured data review process designed to identify student strengths and weaknesses, and develop instructional support plans to ensure students are ready to succeed on TSI, SAT, ACT and other college-ready tests. These tests as well as the school's T-STEM benchmarks will be posted on the charter's website (as required by TEA), and the students will be notified of when the test is scheduled.

The charter will also implement an annual professional development plan for teachers and staff that focuses on research-based instructional strategies that teach about rigor, building college and career readiness, and STEM skills. These strategies can come up in some of the following activities: an externship program, summer research experiences, regularly scheduled peer observations/collaborations with focus groups, industry partner, and IHE partner, etc. Teachers will also visit with employers to gain insight on teaching strategies to be implemented in the classroom.

8. Describe how the district plans to recruit, retain, and support historically underrepresented populations in STEM (e.g, females, economically disadvantaged, at-risk, etc...).

Vanguard Academy will make an intentional effort to reach the historically underrepresented STEM populations of females, economically disadvantaged, and at risk when it recruits students. If the Lone Star Academy has more applicants than available space, the charter will hold a lottery that will give more weight to students who are female, economically disadvantaged, and/or at risk. All students and their guardians will need to sign a letter of commitment. Should students have difficulty with the program, the Beethoven ECHS faculty will provide the necessary support services for success.

9. Does the applicant plan to develop or extend an engineering program as well as a computer science or cybersecurity program?

Vanguard Academy does plan to develop a cybersecurity program and expand its engineering program.

10. Does the applicant have at least one teacher certified to teach computer science?

Beethoven ECHS does have a teacher certified to teach computer science, but it will not pursue this pathway.

11. Does the applicant have at least one teacher certified to teach cybersecurity?

Beethoven ECHS does have a teacher certified to teach cybersecurity.

### 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 program.

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

Group	<input type="text"/>	Barrier	<input type="text"/>
Group	<input type="text"/>	Barrier	<input type="text"/>
Group	<input type="text"/>	Barrier	<input type="text"/>
Group	<input type="text"/>	Barrier	<input type="text"/>

### 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.*

☐ 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	<input type="text"/>
2. Enrollment of all participating private schools	<input type="text"/>
3. Total enrollment of LEA and all participating PNPs (line 1 plus line 2)	<input type="text"/>
4. Total current-year program allocation	<input type="text"/>
5. LEA reservation for direct administrative costs, not to exceed the program's defined limit	<input type="text"/>
6. Total LEA amount for provision of ESSA PNP equitable services (line 4 minus line 5)	<input type="text"/>
7. Per-pupil LEA amount for provision of ESSA PNP equitable services (line 6 divided by line 3)	<input type="text"/>
<b>LEA's total required ESSA PNP equitable services reservation (line 7 times line 2)</b>	<input type="text"/>



Appendix I: Amendment Description and Purpose (leave this section blank when completing the initial application for funding)

An amendment must be submitted when the program plan or budget is altered for the reasons described in the "When to Amend the Application" document posted on the [Administering a Grant](#) page. The following are required to be submitted for an amendment: (1) Page 1 of the application with updated contact information and current authorized official's signature and date, (2) Appendix I with changes identified and described, (3) all updated sections of the application or budget affected by the changes identified below, and, if applicable, (4) Amended Budget Request. Amendment Instructions with more details can be found on the last tab of the budget template.

You may duplicate this page

Amended Section	Reason for Amendment