



Foundation For Allen Schools Grant Application 2021

Scholarship Fund Amount: \$0

Let's get to know you!

Please provide your work-related Twitter contact information.	
Please provide your work-related Facebook contact information.	
I have co-applicants:	No
Best phone number to reach you at:	+12142630602
Campus	Ereckson Middle School
Grade(s)	7;8

Additional Co-Applicants

Campus	Ereckson Middle School
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Project Information

Are there any additional funds available for this grant?	No
Will other grades be involved/impacted?	Yes
Will other campuses be involved/impacted?	Yes
Does your grant have a technology component?	No
Please select the MAIN curriculum area your grant addresses.	Science / STEAM
How many students will be involved in this	

grant?	150
Name of Grant	3D printing with Robotics

Project Information Continued

<p>Provide a brief summary for use on the Foundation's website and social media.</p>	<p>Middle School Students using 3D printers to build robots. Students at Ereckson Middle School are using 3D printers to manufacture parts to drive their robot in the BEST competition. They are getting ready for the future of Engineering.</p>
<p>How will the project or program be implemented? Describe activities and tasks. Who is the target population and in what ways will they benefit?</p>	<p>I would like to purchase a quality 3Dprinter so my students in BEST robotics will learn and manufacture their own custom parts. Most of the teams in the BEST competition are doing this and we would like to be at the front of the pack. This 3D printer would be located in the BEST robotics workshop and would be accessible to all students in the club. These students will eventually leave Ereckson and move to Lowery and finally Allen HS and the STEAM center. This technology of using the 3D printer will feed the pipeline of STEM education. 3D printers are becoming a standard in the world of engineering. Many companies are using 3D printers to manufacture prototypes, a very low-cost tool that fits into the engineering design process. Students that have this knowledge and hands-on experience have more to offer when applying to college and even the workforce.</p>
	<p>This grant will be used for the BEST Robotics program at Ereckson. Ereckson students have been participating in BEST robotics since 2004 when the school opened. The BEST program has advance along with technology. In today's competition, students are able to manufacture a custom part. We receive raw materials such as wood, PVC pipes, metal, and sheets of plastic. These consumables are given to all teams. However, we are allowed to manufacture an entire part using other materials. Therefore printing parts from a 3D printer is now acceptable. Printing from a 3D printer 5 years ago was expensive and not so easily accessible, but today it is a standard in the industry. Students at Ereckson in BEST</p>

What is the problem, need or opportunity that this grant will address? Describe the impact of this project on your students.

robotics as well in STEM classes will be using 3D printers. When they move to Lowery and Allen HS or the STEAM center they will be using printers. Some students are even purchasing 3D printers for their homes because they're so intrigued by this amazing technology. Exposing students at the middle school in robotics to 3D printing will only make them more thirsty for STEM-related professions. Ereckson Robotics placed 1st at the State Championships in 2020, and one of my students was so interested in using the 3D printer that he received one for Christmas. When we were presented an award at the Allen Board Meeting on January 20, 2021, the students shared with everyone that he received a 3D printer and it was all because of robotics.

Which Allen ISD goals/TEKS does this project support? Please provide 2 examples.

Participation in the BEST robotics club helps promote to students how they can earn a high school diploma from Allen ISD with the recognized endorsement of Science, Technology, Engineering, and Math (STEM). This leads students to consider taking robotics-related courses in high school (i.e. Engineering Design, Manufacturing Robotics, Applied Engineering, and Scientific Research) Also, participation in BEST robotics helps to meet the criteria set forth in Texas Education Code (Chapter 130 of the Texas Essential Knowledge and Skills framework under Career and Technical Education -TA1STC - Investigating Careers in STEM) allowing students to consider the possibility of pursuing a career in robotics or technology-related field.

Explain how this idea or project enhances/supports Allen ISD curriculum or existing systems.

aken in part from AISD's belief statements... We believe every child deserves the highest quality education... ...through a class or a club. The nature of our public schools is to provide a free and quality education to every student. In offering the BEST robotics club to our students, we are affording them a learning opportunity to explore in depth what their techy-interests might lead to. Allen ISD offers so many programs and this is just one program for these gifted students in this area. Bill Gates once said "don't laugh at nerds, you will be working for them one day." I have seen so many of these students graduate Allen

	<p>High School and enter college as engineering students, medical students, biologists, and so much more. I have robotics students that are now engineers in big companies like Boeing, TI, and Raytheon. We just built a large STEAM center to promote the sciences and robotics. Every one of our robotics programs and engineering class supports the goals and supported by the goals of Allen ISD.</p>
<p>What is the project timeline and the date of implementation?</p>	<p>The project will begin in August right before the BEST season begins and will continue until December. However, if we receive this grant then we will use the tool over and over again each year. So if you really think about it, I have been doing robotics for 17 years at Ereckson and over 2000 students would have used this 3D</p>
<p>What teaching methods will be used to implement this project?</p>	<p>There will be formal training on 3D printers, the parts of the printer, the program used to design the parts, and the filament we use to manufacture the parts. There will then be hands-on practical training using the 3D printer.</p>
<p>What specific measurements will be used to evaluate the effectiveness of the project?</p>	<p>Hundreds of students have passed through the doors of Ereckson BESt Robotics. Many are now engineering students and even some very successful engineers. This program has been so successful that people have even moved into Allen to attend Ereckson so their kids can do BEST robotics. There is no grade they receive, so the only tool that I can use to measure is their interest in the program. I will be able to compare the effectiveness of the 3D printer by what we build, how we build our robot, and the efficiency and accuracy that the 3D printer brings us.</p>

Project Budget

<p>Total Grant Budget Requested:</p>	<p>700.00</p>
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Almost done!

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Project Budget Set Number 1

Question	Answer
Item Type	General Supplies
List item to be purchased under item category:	3D printer
Unit Cost	700
Quantity	1
Total cost of items in this category:	700.00