



NORTH CAROLINA
State Board of Education
Department of Public Instruction

Report to the North Carolina General Assembly

Increasing Engagement in STEM

[SL 2023-134, sec. 7.22](#)

Date Due: December 15, 2024
DPI Chronological Schedule, 2024-2025

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JOINT LEGISLATIVE EDUCATION OVERSIGHT COMMITTEE REPORT REQUIREMENTS

SL 2023-134 sec. 7.22 established the Increasing Engagement in STEM grant program, the purpose of which was to provide grant funds to public school units to engage in experiential science, technology, engineering, and math (STEM) education programs. The grant program was to specifically support increasing STEM engagement in sixth, seventh, and eighth grade students.

NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION (NCDPI) IMPLEMENTATION

Background

Per [Session law 2023-134\(7\)\(22\)](#), the purpose of the program was to provide grant funds to public school units to engage students in experiential science, technology, engineering, and math (STEM) education programs.

Grant Applications: The application required a plan for how the public school unit would use grant funds to increase STEM engagement of sixth, seventh, and eighth grade students. Applicant plans had to include the following:

- 1) Evidence that the plan uses high-quality instruction methods and includes research-based best practices in the area of STEM education identified in the [NC STEM Schools Progress Rubric](#) in furthering the purpose of the Program.
- 2) How grant funds will be used to further the purpose of the Program. Allowable uses of funds included, but were not limited to, the following:
 - a) Stipends for teachers who participate in the Program.
 - b) Partnering with third-party vendors to provide services or host competitions that further the purpose of the Program.
 - c) How the public school unit would sustain its plan beyond the end of the grant period.
 - d) Any other factors or criteria the Superintendent deems appropriate to advance the purpose of the Program.

When reviewing applications, additional criteria included:

- Number of students and staff impacted
- Support for vertical articulation from 6th-8th grade to a feeder high school
- Coordinates with core standards, creating integrated units, projects, products etc
- Geographic distribution
- Support for economically disadvantaged students/communities

Funding:

A total of \$1,000,000 was set aside by [Session Law 2023-134\(7\)\(22\)](#). The legislation further stipulated a maximum number of 20 awards which were required to be distributed in categories by ADM broken down as follows:

- Up to five public school units consisting of no more than one school.
- Up to five units with an average daily membership from the previous school year of 4,000 students or fewer.

- Up to five units with an average daily membership from the previous school year of between 4,001 and 20,000 students.
- Up to five units with an average daily membership from the previous school year of 20,001 students or greater.

Review Process

All PSUs were notified of the grant program and [grant guidance](#) on January 4, 2024, and the window for applications closed on February 5, 2024. A total of 68 applications were received. 43 from LEAs and 25 charter schools with a total funding request of \$7,655,186.87 for the \$1,000,000 of available funding.

Applications were reviewed by staff from the Office of Charter Schools, Office of Academic Standards, Office of Gifted/Talented, and CTE. Reviewers scored applications using the rubric provided to all PSUs in the grant guidance document. Once all applications had been scored, applications were reviewed by category to determine final recommendations based on meeting funding requirements as prescribed in legislation.

Grant Applications and Awards

Applications were grouped by the categories designated in the legislation

- PSUs with 1 school - 25 applications for a total request of \$1,977,274.69
- PSUs with 4000 or less ADM - 13 applications for a total request of \$2,112,173.55
- PSUs with 4001-20K ADM - 19 applications for a total request of \$1,926,693.63
- PSUs with 20K or more ADM - 11 applications for a total request of \$1,639,045.00

All eight State Board regions were represented among the applications

- Region 1/Northeast - 7 applications received
- Region 2/Southeast - 8 applications received
- Region 3/North Central - 20 applications received
- Region 4/Sandhills - 4 applications received
- Region 5/Piedmont-Triad - 9 applications received
- Region 6/Southwest - 14 applications received
- Region 7/Northwest - 2 applications received
- Region 8/Western - 4 applications received

Table 1 lists the final awardees by the legislatively required categories, PSU name, region, and monetary award. Final awards represented all eight State Board regions with each legislatively defined category receiving five awards, the maximum number allowed.

- Region 1/Northeast - 2 grants awarded totaling \$100,975
- Region 2/Southeast - 3 grants awarded totaling \$118,695.43
- Region 3/North Central - 5 grants awarded totaling \$319,545
- Region 4/Sandhills - 2 grants awarded totaling \$100,000
- Region 5/Piedmont-Triad - 2 grants awarded totaling \$78,060
- Region 6/Southwest - 3 grants awarded totaling \$133,255
- Region 7/Northwest - 1 grant awarded totaling \$26,674
- Region 8/Western - 2 grants awarded totaling \$118,341.67

CATEGORY	PSU NAME	REGION	FUNDING AWARD
PSU with 1 school	Cape Fear Center for Inquiry	Southeast	\$23,551.00
PSU with 1 school	Chatham Charter	North Central	\$14,345.00
PSU with 1 school	Guilford Preparatory Academy	Piedmont-Triad	\$50,000.00
PSU with 1 school	Northeast Academy for Aerospace & Advanced Technologies	Northeast	\$41,000.00
PSU with 1 school	North East Carolina Preparatory	North Central	\$80,000.00
4,000 or less ADM	Alleghany County Schools	Northwest	\$26,674.00
4,000 or less ADM	Asheville City Schools	Western	\$68,341.67
4,000 or less ADM	Greene County Schools	Southeast	\$56,000.00
4,000 or less ADM	Madison County Schools	Western	\$50,000.00
4,000 or less ADM	Northampton County Schools	Northeast	\$59,975.00
4,001-20,000 ADM	Columbus County Schools	Sandhills	\$50,000.00
4,001-20,000 ADM	Kannapolis City Schools	Southwest	\$41,300.00
4,001-20,000 ADM	Moore County Schools	Sandhills	\$50,000.00
4,001-20,000 ADM	Vance County Schools	North Central	\$50,000.00
4,001-20,000 ADM	Wayne County Public Schools	Southeast	\$39,144.43
Greater than 20,001 ADM	Charlotte-Mecklenburg Schools	Southwest	\$49,900.00
Greater than 20,001 ADM	Iredell-Statesville Schools	Southwest	\$42,055.00
Greater than 20,001 ADM	Johnston County Public Schools	North Central	\$50,000.00
Greater than 20,001 ADM	Wake County Schools	North Central	\$125,200.00
Greater than 20,001 ADM	Winston Salem / Forsyth County Schools	Piedmont-Triad	\$28,060.00
TOTAL			\$995,546.10

Table 1

Grant Reporting Data

As part of receiving funding through this grant program, recipients were asked to complete a survey in the Fall of 2024 to provide follow-up data regarding their implementation and use of grant funding as well as any measurable impacts up to that point in time. The window for completing the survey was extended due to the impacts of Hurricane Helene. 18 out of 20 grant recipients responded to the survey.

The survey asked five main questions:

- List the categories in which funds were utilized.
- Was the PSU able to spend all of the allotted funds?
- Provide a general description of how the funds were used to support the goals of the program.
- If the grant program were to be renewed, would the PSU seek to continue using funds in the future, and if so, how?
- What recommendations would the PSU have for any future implementation of a similar grant program?

Use of Funding

All grant recipients utilized funding to support their grant goals with only two PSUs unable to fully expend awarded funds due to the short turnaround time. Categories of expenditures included:

- Supplies and Materials - 17 out of 18 reporting PSUs
- Personnel (stipends, sub-pay, benefits) - 9 out of 18 reporting PSUs
- Professional Development - 8 out of 18 reporting PSUs
- Computer Supplies/Equipment - 6 out of 18 reporting PSUs
- Contracted services - 4 out of 18 reporting PSU's

PSUs shared a range of innovative and creative ways funds were used to engage students in STEM activities and opportunities. These included:

- Working with UNC-Wilmington's MarineQuest program so that students could attend a week-long immersive camp, designed to inspire a love for marine science, offered students hands-on experiences in oceanography, ecology, and environmental conservation. The program expanded their understanding of the marine environment, incorporated key STEM concepts including data analysis, scientific inquiry, and the application of technology in environmental research, and encouraged teamwork, problem-solving, and environmental stewardship.
- Allocating funds to foster student participation in STEM-related activities such as the Grand Challenges, Citizen Chats, and STEM Summer Camps.
- Purchasing supplies and materials necessary for a four-day STEM camp
- Funding teacher stipends for facilitating the three-day STEM Teacher Leadership Academy.
- Sixth graders utilizing devices to enhance their study of ancient India in social studies. In a cross-curricular unit, seventh graders in French class used devices to learn more about how the Eiffel Tower was constructed. The students explored different stages of construction and the engineering behind the scenes for each stage and part of the Eiffel Tower. In their marketing elective course, seventh graders used the devices to delve into a platform for ticket sales at an annual schoolwide event. Eighth grade language arts students used the tablets to digitally create and present multi-perspective posters to peers, and the techniques they used to persuade the audience.
- VR goggles to provide immersive experiences that make complex STEM concepts more accessible and engaging for students. These tools allowed students to explore virtual environments, simulate experiments, and visualize abstract concepts in science, technology, engineering, and math.
- Robotics kits enabled students to participate in interactive, project-based activities that foster critical thinking, creativity, and problem-solving. Students gained valuable skills in coding, engineering design, and teamwork while building and programming robots.
- Teachers received professional development and resources to effectively integrate these technologies into their classrooms.

- To provide resources for ongoing as well as newly created STEM courses, including Seaperch, Forensics, and others. The funds were used to provide critical curricular as well as technology-related resources that were needed to make these courses happen.
- To set up various hands-on STEM labs that allow students in grades 6-8 to engage in project-based learning experiences directly related to real-world STEM careers. This included setting up state-of-the-art labs in specialized areas such as Alternative Energy, Video Production, Intro to Computer Science, Intro to Engineering & Design, Flight & Drone Technology, and Intro to Health Careers. Each module provides immersive, problem-based activities that allow students to work individually or in small groups to gain foundational skills in these fields.
- To integrate Drone Legends kits and materials into the curriculum to provide the following for students: real-world applications, hands-on experiences, project-based learning, global and environmental awareness, technology integration, digital learning, and problem-solving.

Future Funding and Recommendations from participating PSUs

All PSUs who responded to the survey indicated a high level of interest in seeking future funding to continue the programs and initiatives they started with this funding. The responses received are best summarized by the quote below:

- “Yes!!! ... we can certainly see that prior to the C-Term students had no idea what careers were available in the local area or even what STEM was in some cases and how it affected their lives. Pulling students from 8 counties in low-wealth rural northeast North Carolina, this program has had more of an impact than any that we have had the opportunity for in the past.”

PSUs feedback for future funding focused on a greater length of time to plan and implement the grant as well as continued choice in the vendors utilized to implement grant goals.

Summary

The Increasing Engagement in STEM program was a highly sought-after opportunity with 68 applications received with a total request of \$7 million for just \$1 million in available funding. While the program was able to award 20 grants across the state, 48 grants were left unfunded.

PSUs were able to directly engage students in STEM related opportunities and support teachers in designing future lessons and opportunities to continue engaging students beyond the life of the grant.

Feedback demonstrated that future grant opportunities would continue to be highly competitive and sought after by PSUs who demonstrated they already have plans and visions for future grants in place.