



NORTH CAROLINA
State Board of Education
Department of Public Instruction

Report to the North Carolina General Assembly

Educational and Competitive After-School
Robotics Grant Program

[SL 2023-134, sec. 7.23](#)

Date Due: February 15, 2024
DPI Chronological Schedule, 2023-2024

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JOINT LEGISLATIVE EDUCATION OVERSIGHT COMMITTEE REPORT REQUIREMENTS

[SL 2021-25, sec. 3.5\(a\)\(31\)](#) established the Educational and Competitive After-School Robotics Grant Program (Program) during the 2021-2023 fiscal biennium. The program was continued per [SL 2023-134, sec 7.23](#). In each case, the purpose of the Program shall be to (i) promote evidence-based, after-school programs for robotics education and competition, (ii) motivate students to pursue education and career opportunities in science, technology, engineering, and mathematics while building critical life and work-related skills, and (iii) re-engage students and remediate learning loss resulting from the COVID-19 pandemic.

A qualifying school is eligible as follows:

Any public school unit (PSU) is eligible to apply to the Department of Public Instruction for a grant to develop an educational and competitive after-school robotics program with a robotics partner. As used in this subsection, the term "robotics partner" shall refer to a third-party entity, such as a nonprofit organization or institution of higher education, approved by the Department of Public Instruction, that is able to provide adequate support for an after-school robotics program. In order to provide adequate support, a robotics partner must meet at least all of the following criteria:

1. Have a national presence in robotics education and competition.
2. Provide adequate instruction and programming for students and adult volunteers in (i) robotics education, (ii) project-based learning, and (iii) competitive robotics.
3. Promote a safe and equitable social environment.

Applications shall include, at a minimum, the following information:

1. Evidence that the applicant has or will be able to establish a relationship with a robotics partner.
2. A proposed budget for the educational and competitive after-school robotics program. Funds may be used for any of the following purposes:

Funds may be used for any of the following purposes:

1. Establishing a relationship with a robotics partner.
2. Purchasing robotics kits.
3. Providing stipends for coaches.
4. Making payments associated with participation in a robotics league or robotics competition.
5. Paying fees incurred as part of the administration of a robotics team.

Per [SL 2023-134, sec 7.23](#), reporting no later than February 15, 2024 for the 2023-2024 fiscal year and October 15, 2024 for the 2024-2025 fiscal year the Department shall communicate the following information to the Joint Legislative Education Oversight Committee and the Fiscal Research Division:

- Number and amounts of grants awarded.
- Identities of the public school units receiving grants.
- Identities of public school units that applied for grants but did not receive one.

- The extent to which students participating in after-school robotics programs funded by the Program experienced measurable improvement in academic performance, if any

NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION (NCDPI) IMPLEMENTATION

This report is based on the most current activity and processes for the Competitive After-School Robotics Grant based on legislation outlined in both [SL 2021-25, sec. 3.5\(a\)\(31\)](#) and [SL 2023-134, sec 7.23](#).

The allotment policy related to [SL 2021-25, sec. 3.5\(a\)\(31\)](#) was approved by the North Carolina State Board of Education (SBE) on February 3, 2022. This action permitted NCDPI to distribute allotted funds (\$1.6 million) to Public School Units (PSUs) upon approval of applications. The grant application opened in the Comprehensive Continuous Improvement Plan (CCIP) system on April 1, 2022 and closed May 27, 2022. The allotment application was open to all North Carolina PSUs that meet the qualifications as outlined in the legislation. The application captured actual costs to be provided to those schools that implement the Competitive After-School Robotics Program and collected data from the PSUs that meet the criteria as specified by the legislation including low performing school status; innovative school district status; and at-risk status. Awards were approved by the SBE on August 4th, 2022 and funds were distributed to PSUs immediately thereafter.

The Department utilized the allotment policy approved by the SBE related to [SL 2021-25, sec. 3.5\(a\)\(31\)](#) to implement the grant process per [SL 2023-134, sec 7.23](#). The Department followed an identical process to advertise and communicate the grant opportunity, receive and review applications from PSUs and award funds. The grant application opened in the Comprehensive Continuous Improvement Plan (CCIP) system on November 15, 2023 and closed December 31, 2023. Awards were approved by the SBE on February 1, 2024 and funds were distributed to PSUs immediately thereafter.

Grant Applications and Awards

Since the inception of the Competitive After-School Robotics Program with the passage of [SL 2021-25, sec. 3.5\(a\)\(31\)](#), the Department has received a total of 111 grant applications for a total funding request of \$8,288,426.36 over the two grant cycles. This represents \$5,688,426.36 beyond the funding allocated.

- 2022 - 65 applications with a total request of \$6,122,930.89 for \$1,600,000.00 of allotted funding
- 2024 - 46 applications with a total request of \$2,165,495.47 for \$1,000,000.00 of allotted funding

For the initial grant cycle in 2022, 18 LEAs and 1 charter school were awarded grants for a total of \$1,590,075.45. The Table 1 below lists each of the applications received, the name of the requesting PSU, the requested amount, and whether the PSU received a grant..

Table 1

| After School Robotics Grants - 2022 Award Cycle | | |
|---|------------------------|---------------|
| PSU Name | Total Budget Requested | Grant Awarded |
| Brunswick County Schools | \$70,430.00 | Yes |
| Buncombe County Schools | \$36,758.00 | Yes |
| Catawba County Schools | \$24,600.00 | Yes |
| Edgecombe County Public Schools | \$78,305.50 | Yes |
| Elizabeth City-Pasquotank Public Schools | \$45,550.00 | Yes |
| Gates County Schools | \$51,431.00 | Yes |
| Guilford County Schools | \$204,690.00 | Yes |
| Henderson County Schools | \$82,260.00 | Yes |
| Hoke County Schools | \$206,487.61 | Yes |

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|--|--------------|-----|
| Hyde County Schools | \$30,000.00 | Yes |
| Iredell-Statesville Schools | \$22,155.00 | Yes |
| Mountain Island Charter | \$20,000.00 | Yes |
| Northampton County Schools | \$62,304.12 | Yes |
| Pender County Schools | \$243,056.00 | Yes |
| Surry County Schools | \$58,980.00 | Yes |
| Tyrrell County Schools | \$100,000.00 | Yes |
| Wake County Schools | \$120,383.22 | Yes |
| Warren County Schools | \$49,025.00 | Yes |
| Wilson County Schools | \$83,660.00 | Yes |
| A.C.E. Academy | \$17,950.00 | No |
| Arapahoe Charter School | \$48,943.00 | No |
| Asheville City Schools | \$28,297.00 | No |
| Bear Grass Charter School | \$32,540.00 | No |
| Beaufort County Schools | \$77,700.00 | No |
| Burke County Schools | \$110,000.00 | No |
| Cabarrus County Schools | \$451,397.59 | No |
| Caldwell County Schools | \$400,000.00 | No |
| Camden County Schools | \$18,150.00 | No |
| Carter G Woodson School | \$76,261.99 | No |
| Carteret County Public Schools | \$31,575.00 | No |
| Chapel Hill-Carrboro City Schools | \$67,590.00 | No |
| Charlotte-Mecklenburg Schools | \$206,200.00 | No |
| Cherokee County Schools | \$97,926.00 | No |
| Cumberland County Schools | \$64,300.00 | No |
| D.C. Virgo Preparatory Academy | \$14,112.00 | No |
| Falls Lake Academy | \$35,337.00 | No |
| Gaston County Schools | \$265,643.00 | No |
| Greene County Schools | \$63,800.00 | No |
| Harnett County Schools | \$54,770.00 | No |
| Jackson County Public Schools | \$88,400.00 | No |
| Johnston County Public Schools | \$36,500.00 | No |
| Lenoir County Public Schools | \$31,345.00 | No |
| McDowell County Schools | \$35,000.00 | No |
| Mount Airy City Schools | \$29,295.76 | No |
| Nash County Public Schools | \$33,104.50 | No |
| New Hanover County Schools | \$16,200.00 | No |
| Northeast Academy of Aerospace & AdvTech | \$53,000.00 | No |
| Onslow County Schools | \$142,200.00 | No |
| Orange County Schools | \$85,975.00 | No |
| Person County Schools | \$49,320.00 | No |
| Pine Lake Preparatory | \$25,500.00 | No |
| Pitt County Schools | \$177,180.00 | No |

| | | |
|--|--------------|----|
| Public Schools of Robeson County | \$164,630.00 | No |
| Queen City STEM School | \$103,000.00 | No |
| Research Triangle High School | \$85,500.00 | No |
| River Mill Academy | \$6,000.00 | No |
| Rockingham County Schools | \$326,000.00 | No |
| Rocky Mount Preparatory | \$17,255.00 | No |
| Scotland County Schools | \$95,500.00 | No |
| The New Dimensions School | \$50,000.00 | No |
| Triad Math and Science Academy | \$103,000.00 | No |
| Triangle Math and Science Academy | \$103,000.00 | No |
| Wayne County Public Schools | \$79,177.60 | No |
| Winston Salem / Forsyth County Schools | \$383,380.00 | No |
| Yadkin County Schools | \$50,900.00 | No |

For the 2024 grant cycle, 20 LEAs and 2 charter schools were awarded grants for a total of \$1,000,000.00. Table 2 lists the name of each requesting PSU, the requested amount. PSUs that received a grant with previous 2022 grant recipients are noted with an “*”.

Table 2

| After School Robotics Grants - 2024 Award Cycle | | |
|---|------------------------|---------------|
| PSU Name | Total Budget Requested | Grant Awarded |
| Asheville City Schools | \$73,671.16 | Yes |
| Brevard Academy | \$11,805.50 | Yes |
| Cabarrus County Schools | \$76,000.00 | Yes |
| Caldwell County Schools | \$75,000.00 | Yes |
| Chatham County Schools | \$50,332.00 | Yes |
| Columbus County Schools | \$39,600.00 | Yes |
| Cumberland County Schools | \$23,466.12 | Yes |
| Harnett County Schools | \$42,532.00 | Yes |
| Haywood County Schools | \$58,888.04 | Yes |
| Johnston County Public Schools | \$57,370.00 | Yes |
| Kannapolis City Schools | \$37,176.74 | Yes |
| Lenoir County Public Schools | \$33,895.00 | Yes |
| Martin County Schools | \$25,421.00 | Yes |
| Mount Airy City Schools | \$16,686.90 | Yes |
| Next Generation Academy | \$66,493.60 | Yes |
| Person County Schools | \$24,018.00 | Yes |
| Pitt County Schools | \$34,000.00 | Yes |
| Public Schools of Robeson County | \$74,955.00 | Yes |
| Richmond County Schools | \$75,000.00 | Yes |
| Roanoke Rapids City Schools | \$25,600.00 | Yes |
| Rockingham County Schools | \$40,000.00 | Yes |
| Winston Salem / Forsyth County Schools | \$40,139.00 | Yes |

| | | |
|--|-------------|----|
| American Renaissance School | \$75,000.00 | No |
| Buncombe County Schools* | \$54,230.00 | No |
| Catawba County Schools* | \$65,664.48 | No |
| Charlotte-Mecklenburg Schools | \$49,812.00 | No |
| Edenton-Chowan Schools | \$62,000.00 | No |
| Edgecombe County Public Schools* | \$70,823.38 | No |
| Henderson County Schools* | \$61,940.00 | No |
| Iredell Charter Academy of Arts and Sciences | \$6,649.00 | No |
| Jackson County Public Schools | \$25,000.00 | No |
| Lake Norman Charter | \$10,000.00 | No |
| Magellan Charter | \$8,778.24 | No |
| Moore Montessori Community School | \$43,131.20 | No |
| Mountain Island Charter* | \$25,000.00 | No |
| Northampton County Schools* | \$34,300.00 | No |
| Northeast Academy of Aerospace & AdvTech | \$24,500.00 | No |
| Onslow County Schools | \$75,000.00 | No |
| Pender County Schools* | \$75,000.00 | No |
| Randolph County School System | \$39,991.00 | No |
| Rowan-Salisbury Schools | \$73,592.57 | No |
| Surry County Schools* | \$70,780.00 | No |
| Triangle Math and Science Academy | \$37,691.00 | No |
| Wayne County Public Schools | \$70,160.00 | No |
| Weldon City Schools | \$71,302.54 | No |
| Wilson County Schools* | \$33,100.00 | No |

Grant Reporting Data

NCDPI implemented a biannual survey distributed to all 2022 awardees requesting updates on the status of the grant and progress toward meeting their stated goals. Grant recipients were asked to provide updates in March, 2023 and January, 2024. Per [SL 2021-25, sec. 3.5\(a\)\(31\)](#), all applicants were required to provide data from the 2022-2023 and 2023-2024 school years related to:

- Number of schools participating in the grant
- Number of After School Robotics teams utilizing grant funds
- Number of students participating on After School Robotics teams
- Number of staff coaching or mentoring teams
- Number of competitions team(s) attended supported by grant funds

In addition, PSUs were asked to provide information related to strengths of their programs, student outcomes, and any challenges faced in implementing the grant program.

Table 3 lists data collected through the biannual surveys. Over the past two years, the After School Robotics Grant has resulted in:

- Participation from 265 schools from all grade levels and across all 8 State Board of Education regions.
- Support for 363 Robotics teams with 124 being newly established specifically as a result of the After School Robotics Grant program.
- 3,417 students participating in Robotics teams with support from 436 staff members.

Table 3

| | Data for 2022-2023 School Year (As of March, 2023) | | | | | Data for 2023-2024 School Year (As of February, 2024) | | | | |
|--------------|--|-----------------|-----------|--------------------|-----------------|---|-----------------|-----------|--------------------|-----------------|
| Grade Span | Number of Schools | Number of Teams | New Teams | Number of Students | Number of Staff | Number of Schools | Number of Teams | New Teams | Number of Students | Number of Staff |
| Elementary | 80 | 103 | 65 | 925 | 131 | 69 | 93 | 10 | 921 | 118 |
| Middle | 35 | 57 | 23 | 447 | 55 | 29 | 51 | 7 | 397 | 48 |
| High School | 25 | 18 | 4 | 253 | 37 | 21 | 23 | 6 | 295 | 31 |
| Other* | 4 | 4 | 3 | 60 | 7 | 2 | 5 | 1 | 35 | 3 |
| TOTAL | 144 | 182 | 95 | 1685 | 230 | 121 | 181 | 29 | 1732 | 206 |

*Includes K-8, K-12

In addition to the data above, PSU responses related to impacts on student outcomes for the 2022-2023 and 2023-2024 school years demonstrated consistent trends showing:

- Increased student interest in STEM and Robotics.
- Increased student collaboration, critical thinking and ability to problem solve with peers.
- An overall rise in student engagement.

PSUs noted challenges related to transportation for after school programming, program continuity resulting from changes in school or district level leaders, finding and keeping mentors/coaches, and worries about continued funding to support the growth in the number of Robotics teams and the growth in student interest.

Summary

Applications received by the Department demonstrate a significant interest on the part of PSUs from across the State to initiate new, and further expand, existing Robotics programs. Through the application and review process, the Department noted:

- Funding requests from the 2022 and 2024 funding cycles exceeded available funds by \$6 million and \$2 million, respectively.
- 111 applications were submitted during the two grant cycles.
- 84 different PSUs applied for grant funding with 27 PSU applying during both cycles.
- 41 different PSUs (38 LEAs and 3 Charters) received funding.

The 2022 After School Robotics Grant program cycle:

- Directly helped establish 119 new Robotics teams out of a total of 354 teams supported by the grant.
- Impacted over 3,000 students at 265 schools.
- Supported 196 elementary robotics teams between 2022-2024, establishing 75 new elementary teams.
- As reported by participating PSUs, the grant program has increased interest in STEM, increased student engagement, and increased student use of durable skills such as problem solving, critical thinking, and collaboration.

The overall impact the grant program is having on students is best exemplified by the following response from a participating PSU:

“Perhaps the most rewarding outcome has been the palpable excitement among our students. The grant-funded programs sparked genuine enthusiasm for learning, evident in increased engagement, participation, and a newfound curiosity.”