

Durham County Library  
Partners for Middle School STEM Cohort Application  
Stanford L. Warren Branch Library  
Librarian: Ericka Hill

**1). Name of Library System:**

Durham County Library

**2): Population of Library Service Area: 263,016**

**3). Library CEO**

Tammy Baggett

919-560-0160

**4). Please describe your library's current approach to providing STEM learning for community members. Please identify any programs serving middle school age youth.**

Durham County Library (DCL) is committed to STEM education for our community members. We recognize the importance STEM education plays in bridging the digital divide in our community, as well as in preparing youth and adults for jobs and education. DCL has STEM programming in a MakerLab at one of our renovation's satellite locations and with consistent STEM programming at many of our locations. DCL's Main Library successfully piloted and then implemented the Teen Tech Learning Lab – Where Science and Imagination Collide over three years for tweens and teens. However, Main Library is closed for a two-year renovation project, and the MakerLab, while close to the Main Library, does not see the same audience for programming as the Teen Tech Learning Lab. The Learning Lab programming focused on underserved and low-income youth that lived near the Main and Stanford L. Warren Branch Libraries. The teens and tweens that come to the MakerLab for programming are not the same teens. They are those whose parents are actively seeking out STEAM programs and who have many of the technologies already at home.

Within the DCL system, Stanford L. Warren Branch Library – the library that will be the focus of this application – serves low-income, underserved, and unrepresented teens, mostly between the ages of 10 and 14. Stanford L. Warren Branch Library has a long history in the community – as the first library for people of color within the State of North Carolina and with deep roots in the historically African American community where it's located. Currently, the teen librarian at Stanford L. Warren Branch Library offers a variety of STEM focused programming, including programs such as Learning With Cubelets, Lego Robotics, Mini MakerDays Building BristleBots and KidsCode workshops. These mostly singular session programs have been successful – averaging 10 to 15 tweens in attendance.

However, the librarian has found that the tweens and teens targeted for this type of programming quickly lose interest, and it is a struggle to find ways to keep the youth interested in the programming and get them to see the value that learning STEM concepts can provide. One of the ways the librarian worked to promote continued interest in the STEM programming was to provide food. Many of the students in the community around Stanford L. Warren Branch Library and indeed across Durham receive free or reduced priced lunch and may face food scarcities at home. So, the librarian not only wanted to appeal to the tried and true method of "if you feed teenagers, they will come," but she also

wanted to use this opportunity to meet an additional need. It worked. She had a STEM series with donated food, and the retention and engagement of students was higher than those without.

Another key aspect of the work done by the Teen Librarian is STEM programming within the Durham Youth Home, Durham County's juvenile detention facility. The Teen Librarian has brought in programs on coding, robotics, and other STEM programming. The most recent program, in October 2018, was a coding workshop. The audience was African American males ages 12 to 15. In the program the youth coded their own avatar that they then used in a video game. The STEM programming at the Youth Home has been extremely successful. The young people are engaged and are learning about life opportunities (they can be a computer programmer!) and education opportunities they might not have heard about or experienced otherwise. In this program, and in those at Stanford L. Warren Branch Library, the Teen Librarian has witnessed a transformation of low income students – they have gone from consumers of technology to empowered creators of content.

**5). Please describe your library's current practices for engaging low income youth.**

Durham County Library is committed to reaching out to low income youth and families. DCL has consistent programming within our local housing communities, providing tutoring, early literacy, and STEM education. DCL provides free one-on-one application-based tutoring to underserved students at the MakerLab, with many of these students speaking English as a Second Language. We have long standing programs in partnership with the NC Summer Food Service Program, providing lunch and breakfast with storytimes at our Main Library and a local housing community. We emphasize outreach to under resourced schools and daycares, providing library visits, STEM MakerDays, storytimes, and other programs. Work is also underway to secure a team of social workers at the renovated Main Library and Stanford L Warren Branch Library to help connect our most under resourced and underserved customers and families with all the resources and help they need to access the resources they need to thrive.

Specifically, within Stanford L. Warren Branch Library, the Teen Librarian works to engage her community by meeting them where they are and reaching into the community to engage low income youth. She emphasizes connecting with parents and sharing information on available programs at the library. Many times, parents in the community are not aware of the programming offered, and that it is free. But, once they find out about the programs, they are excited to send their children, often making their children come, eager for their children to have access to these important educational resources and skills. Once they know they have free access, many parents work to ensure that their family members utilize the resources.

Taking it one step further, the Teen Librarian goes into local hubs in the community to make connections and share information about library resources and programming with community members. For the Young Scholars Brotherhood STEM program at Stanford L. Warren Branch Library, the Teen Librarian partnered with a respected leader in the community and went with him into community centers and hubs to promote the program. They visited local restaurants, barbershops, housing communities/neighborhoods, and faith centers. Here, they engaged with the community, and connected

with parents. The result was an extremely successful program with an engaged cohort of young, African American males.

As mentioned previously, Stanford L. Warren Branch Library's Teen Librarian also provides consistent programming at the Durham Youth Home for incarcerated youth. Frequently, youth in the Youth Home are young, African American males from low income families. By doing programs and outreach with these incarcerated teens, Stanford L. Warren Branch Library's Teen Librarian engages a group of young people who would not have access to library services otherwise.

Furthermore, the Teen Librarian engages low income youth through other organizations that can provide services that the library cannot, like transportation. Stanford L. Warren Branch Library has a longstanding relationship with the John Avery Boys and Girls Club, which is less than a mile from the branch's location. The staff at the Boys and Girls Club have brought students in busses to programs and have also allowed library staff to bring programs to the Club, all to reach low income students who may not know about the library, who may not go to the library, or who may not have access to the library for a myriad of reasons.

DCL also has strong relationships with the shelters for families experiencing homelessness within the area, hosting children and families from those locations at STEM and other programs system-wide. The Stanford L. Warren Branch Library Teen Librarian is currently cultivating relationships with the Salvation Army's Youth Programs to bring targeted outreach and programming to youth in those locations.

**6). Please describe your current staff capacity to facilitate STEM programs.**

At Stanford L. Warren Branch Library, staff capacity for STEM programming can be categorized in two ways. The first category is physical resources, such as staff and staff time, space, and materials. The second way is the knowledge and comfort level of the staff to provide engaging, innovative STEAM programming.

Currently, Stanford L. Warren Branch Library has one teen librarian and one's children's librarian. These librarians, along with the other staff in the building, are responsible for collection maintenance and circulation, desk staffing, and then planning and implementing programs in their respective areas, as well as corresponding outreach. The librarians at Stanford L. Warren Branch Library are passionate about ensuring that the tweens, teens, and children they serve have access to quality information, technology, and programming.

Stanford L. Warren Branch Library staff are finding the time to do STEM programming, but have shared that until it's possible to strengthen staff knowledge of and expertise in facilitating STEM programs, it remains most efficient and effective to bring in community partners and agencies to facilitate programming—allowing for experts to teach the community, while allowing for librarians to continue with daily duties.

The librarians at Stanford L. Warren Branch Library have access to the materials at the MakerLab, however, the collection of STEM materials at their branch is small and it is not always possible or practical to borrow from the MakerLab. To enhance programming, librarians report that having their own 3D printer, robotics, and other STEM supplies would improve their programming.

Finally, while the Teen Librarian is working to provide STEM programming, she feels that she is limited in her capacity to continue to provide innovative and engaging STEM programming for her middle schoolers/tweens. With more knowledge, more experience, and more training, she is confident that she could gain the skills and experience necessary to take her programming up to the next level.

## **7. Please describe the STEM program(s) for low-income youth ages 10-13 that you would like to develop through participation in the cohort**

Through participation in the STEM Cohort program, we hope to expand STEM programming during the summer months at Stanford L. Warren Branch Library and the Durham Youth Home to help combat the Summer Slide learning loss. For the underserved and low-income youth served by Stanford L. Warren Branch Library and the Durham Youth Home, the Summer Slide can bring huge disadvantages to academic achievement, which can lead to students being significantly behind their peers, and without the resources to be able to catch up. The library can help fill this gap.

Through participation in this cohort, we would like to learn best practices for creating an engaging 4-week STEM summer program for youth ages 10 to 13 that would be at both the Stanford L. Warren Branch Library and the Durham Youth Home.

Our goal is for the program to take the form of a multi-day per week camp at Stanford L. Warren Branch Library, partnering with the Summer Food Service Program so that participants are guaranteed at least one hot meal while they are attending, and they are then able to fully focus and engage with the content being taught. The camp would run for four hours each day, allowing for multiple activities and presenters each day on a certain topic, as well as time for breaks and lunch/breakfast.

Each week would have a theme and would feature presenters and community organizations, such as the Museum of Life and Science, Kramden Institute, Durham Technical Community College, and Aisymmetry, LLC. Each week the theme would be around a STEM topic and would encourage collaborative, critical thinking. Possible topics include coding, robotics, building and design, space and engineering, culminating in education and business. The final week of the four-week program would be a celebration of all the students have learned with presentations and programs on the education needed, careers possible, and business people in STEM fields. A principal learning objective for youth participating is that they learn that they can create technology, not just consume it. They are capable of being leading software engineers, programmers, and scientists. High powered, high productivity, high paying STEM careers are within their grasp. There are people in those fields already, who look like them and have similar backgrounds.

Ideally, we will provide the same type of program at the Durham Youth Home, just scaled back.

This program has great impact potential in a community that has demonstrated its desire for engagement with youth. But, it's a large undertaking. To develop this level of programming, and then to possibly extend it during the school year to create consistency, and further bolster young people's learning and engagement in STEM, there's a great deal of logistics and lesson plans to develop. As well as developing a

program that meets the capacity and feasibility of the staffing at Stanford L. Warren Branch Library. It is our goal that participation in this cohort would help give us best-practices and other evidence-based findings for refining and developing our STEM summer program at Stanford L. Warren Branch Library and within the Durham Youth Home with the incarcerated teens.

We will also seek out evidence from others on ways to engage youth from the Durham Youth Home once they are released, and how Stanford L. Warren Branch library and Durham County Library's other locations, can be safe places for them to come and not just learn about STEM topics, but also explore a variety of educational topics, and find the support and encouragement they and their families need so that they do not become statistics in the school to prison pipeline within our community.

**8). Please identify the outcomes you seek to achieve with the STEM program(s).**

With the STEM Summer Program both at Stanford L. Warren Branch Library and the Durham Youth Home there are several desired outcomes. First and foremost, we want to empower the underserved/low-income youth we serve to know and see that they are capable of being computer programmers and software engineers – that they don't have to just be consumers of technology. They are creators, and they are entrepreneurs, and they can have lucrative STEM careers, too. There are people in those careers who look like them and have similar backgrounds. Our hope is that the young people who participate in the STEM program leave knowing that they are capable and feeling confident. We want to create opportunities through which they and their families learn about available jobs in STEM as well as educational opportunities and resources available to them to achieve their goals. Another goal of the program is to make the staff at Stanford L. Warren Branch Library more comfortable and knowledgeable about STEM programming and its benefits to young people. If more of the staff at the location, and within the entire library system, feel comfortable with STEM, they will feel more confident providing advanced level programming in addition to promoting and marketing the STEM programs and resources available at the library.

Finally, we hope the STEM Summer Program serves as a catalyst for several partnerships. First, we plan to strengthen our relationships with existing partners in the hopes of expanding programming and outreach opportunities. Second, this program will help us establish new partnerships within the community, and help strengthen the work of the library as an advocate for low-income families and young people. Additionally, our work will focus on ensuring that youth and families served by this program feel comfortable with libraries and library spaces and become lifelong users of the services provided by the library. Finally, it is our goal that the presentations and programs provided by the STEM Summer Camp will inspire mentoring relationships between the educators and community members presenting and the young people attending.

**9). Please identify how the proposed STEM pilot program(s) fits into your strategic goals.**

Durham County Library is in the process of establishing a new strategic plan and goals. The new goals for DCL are promoting literacy and lifelong learning; bridging the digital divide; workforce development; capturing the culture of Durham, and becoming an accountable, efficient, and visionary library. The STEM

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Summer Program at Stanford L. Warren Branch Library and the Durham Youth Home supports all these goals. STEM education and programming, and the technology associated, helps bridge the digital divide within our community, while also addressing the Summer Slide and promoting career readiness. Addressing the summer slide and career readiness falls into the area of workforce development. At its core, the programming is supporting literacy and engaging students to be lifelong learners. Finally, the program is capturing the culture of Durham on multiple levels – Durham is a startup and innovation hub, and to keep this culture alive, libraries need to have programming that allows all community members to be a part of the development and growth. The STEM program would keep members of our community from being left behind.

Finally, the STEM Summer Program at Stanford L. Warren Branch Library and the Durham Youth Home fits into several of Durham County Government's new strategic goals. Goals 12A – 12C include Youth Enrichment, K-12 Learning, and increased emphasis on education. Goals 11A – C focus on work and job force development, while 14a centers on providing unique library services to our community.

**10). Please identify the status of your proposed STEM programming**

Plans not developed

**11). Please identify the potential partners for collaboration on your STEM Programs.**

There are several partners for this program. First, is the Durham Youth Home for incarcerated youth. Second are the programmers: the Museum of Life and Science; Kramden Institute; Aisymmtery, LLC; the John Avery Boys and Girls Club; Families Moving Forward; and Durham Technical Community College.

**12). Do you have current relationships with these suggested partners?**

Yes. Durham County Library, and specifically Stanford L. Warren Branch Library has worked with the suggested partners before to provide programs and services at the location for young people. Except for the Durham Youth Home, these partnerships are not on a consistent basis, and DCL seeks to strengthen these collaborations and make them more regular programming offerings at the Stanford L. Warren Branch Library.

**13). Do you currently work with local elected officials around education-related goals/priorities?**

DCL Library Director and the administration team work with the County Manager and his leadership team, as well as the Board of County Commissioners to create strategic goals and priorities. We are currently working with a Commissioner on two projects: *Grown in Durham* and *Reach Out & Read*. The *Grown in Durham* Initiative is specifically designed to increase outreach and communication for young children and their caregivers in Durham. *Reach Out & Read* focuses on outreach efforts with four Duke Pediatric Clinics in Durham serving the majority of low income youth in Durham. The program consists of providing free books for those visiting the clinics, providing reading opportunities in the waiting room and on occasion having the

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bookmobile on site. DCL and Durham Public Schools recently launched a new collaborative that allows all Durham Public School students to access library resources using their student ID number.

**14). Please rank your library's interest in receiving support in the following areas. (5 indicates a high level of interest/need in receiving support in this area, 1 indicates a low level of interest/need in receiving support in this area)**

Hands-on STEM activities and supporting resources for youth ages 10-13: 4

Enhance staff capacity to develop and facilitate STEM programs: 5

Practices in effective partnership development and facilitation: 3

Outreach to local elected officials: 2

Outreach to youth-serving organizations: 3

Outreach to school district/schools: 3

Outreach to local business leaders: 4

Cultivating relationships with collaborators and partners around STEM: 4

Identifying potential collaborators and partners in STEM: 4

Demonstrating the role of public libraries as valuable STEM education partners: 5

Other: Cultivating Staff Confidence, Comfort, and Buy-In to STEM programming from page to librarian

**15. Please identify a library staff member who will work on this project, be available to interact with ULC and SSI staff regularly and participate in meetings and conference calls.**

Ericka Hill, Teen Librarian, Stanford L. Warren Branch Library

**16. Please add any other information you think is important to support your interest in and commitment to participating in this learning cohort if selected.**

Durham, NC is undergoing a period of rapid growth and development. And, with this development, there are several economic, social, and political issues rising to the surface. These

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issues such as gentrification, increasing homelessness and racial disparities are most visible in downtown central Durham where Stanford L. Warren Branch Library is located. The youth in this area face adversities that are not common amongst their peers. Teens in this area face challenges such as homelessness, gangs and gang violence, and food deprivation. Ultimately, our goal with STEM programming at the library is to engage these young people so they can learn new skills. Learning these skills, and effective ways to engage with these youths could potentially have lasting impact – it could change how they view their present, and their hopes and goals for the future. The need for engaging STEM programming that empowers young, underserved and under resourced young people in the neighborhoods surrounding Stanford L. Warren Branch Library and in the Durham Youth Home is great. We believe that participation in this STEM cohort would be a critical step in right direction to help achieve our vision to inspire lives, and transform Durham.

Learning effective ways to engage the youth in STEM programming could potentially change how they view their present and their future. That is why we are so interested in being a part of this cohort.