

FIRST Impact Award - Team 4256

2025 - Team 4256
Team Number
4256
Team Nickname
Cyborg Cats
Team Location
Town and Country, MO - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. Think about percentages of those graduating high school, attending college, in STEM careers, leadership skills, and serving as mentors/sponsors in <i>FIRST</i> programs.
The Cyborg Cats have thoroughly impacted its members through FIRST, driving success in education, careers, leadership, and mentorship. Over the past three years, the team maintained a 100% senior graduation rate, with most pursuing STEM fields after high school. This year, all engineering and business upper leadership roles are held by female students, reflecting our efforts to promote gender diversity. Alumni stay engaged through mentorship, ensuring program sustainability for future students.
Describe your community along with its unique opportunities and circumstances. Think about your geographic region, diversity of town/school, language barriers, socioeconomic barriers, and cultural expectations.
Missouri faces STEM education disparities, with some schools excelling while others lack resources. The Cyborg Cats work to bridge this gap by advocating for state funding to support new robotics teams in underfunded schools. We also promote inclusivity through the STEM Companion Initiative, which engages students with special needs in robotics. Our efforts work to ensure that all students, regardless of background, have access to high-quality STEM education.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> Mission in ways that are effective, scalable, sustainable, and creative.
The Cyborg Cats spread FIRST's mission through a scalable, sustainable, and creative approach. We advocate for STEM education by promoting MO Senate Bill 33 and House Bill 256, securing funding for teams. Our events, like the FLL Team Planting Workshop and Women in STEM Seminar, grow yearly. We expand access to others with a FIRST Robotics Summer Camp at Westminster and STEMCompanion.org, an online resource for students, parents, and educators without local robotics opportunities.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST's</i> Vision.
The Cyborg Cats aim to inspire inclusivity in STEM. We achieve this through our lobbying efforts, securing funding for new FIRST teams. We've also hosted numerous workshops and events, targeting diverse groups of people: individuals with disabilities, women, youth, the economically disadvantaged, and more. In the future, we plan on working more integrally with the FIRST organization to better fulfill their vision and goals, such as a FIRST in Missouri STEM Advisory Board.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?
The Cyborg Cats measure impact through several key metrics, including event participation, team growth, legislative progress, and mentorship outcomes. Events such as our demo at our school's annual carnival brought circa 50% of our new members in 2024. The team tracks the success of mentored teams, such as the Hedgehog Hackers, who won the Champion's Award and advanced to Regionals this year. We have also assisted in starting a new team in South Korea, one of four in the entire country.
Please provide specific examples of how your team and team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years. How do you share these best practices with other teams?
The Cyborg Cats lead by example through our inclusivity, fun team environment, proactive team members, and our dedication to making an impact. Female and younger team membership has substantially grown in recent years. We host annual team bonding events such as ice skating, and team members are incredibly proactive in planning events, such as the service trip to Ethiopia; We are constantly looking to make an impact. We share these practices with others through social media and word of mouth.
Describe your team's initiatives to Assist, Mentor, and/or Start other <i>FIRST</i> teams with emphasis on activities within the past 3 years.
The Cyborg Cats have actively assisted, mentored, and started new FIRST teams over the past three years. We helped establish an FRC team at Samuel School in South Korea and we mentor a FLL team, the Covenant Hedgehog Hackers. We also run a FIRST LEGO League Team Planting Workshop to guide parents and teachers in starting new teams. Additionally, we advocated for state-level funding to support the growth of teams across Missouri and assist other teams by sharing our custom game field.
What other initiatives have you created, grown, sustained, or participated in (<i>FIRST</i> or otherwise) to help inspire young people to be science and technology leaders and innovators? What outcomes have you seen from your efforts in the past 3 years?
The Cyborg Cats have led a Coral Restoration project, with our school being the only one globally licensed to grow the federally protected Atlanta Coral. A team member also founded a STEM leadership club to advance STEM curriculum and resources in our school. We host an annual demo at Westminster's open house, reaching over 800 people in the STL community. Additionally, we run a two-week, five-day FIRST summer camp, encouraging younger students to join FIRST and their local FLL teams.
Describe the partnerships and relationships that you've created with other organizations (teams, sponsors, educational institutions, government, philanthropic entities, etc.) and what you have accomplished together, with emphasis on the past 3 years.
The Cyborg Cats have a strong relationship with FSI, a world-leading foam supplies distributor. Their lead chemist has been a prominent figure within our Women in STEM seminars, and the female members on our team have toured FSI's facilities. We set up a virtual meeting between an FLL team we mentor and FSI to discuss manufacturing their recent invention. We have also partnered with Rep. Davidson and Sen. Fitzwater in support of their bills (HB 33 SB 256).
Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, <i>FIRST</i>, and your communities.
The Cyborg Cats have prioritized inclusivity over the past three years in initiatives like our annual Women in STEM Seminar, the STEM Companion initiative, and collaboration with our school's Best Buddies Club to promote disability awareness. We actively include everyone in FIRST and the global STEM community, assisting in starting an FRC team in South Korea and supporting creativity and ingenuity in Ethiopia. Our efforts significantly increased female leadership, rising from 29% to over 50%.

Explain how you ensure your team and the initiatives you have created will be sustainable.	
Sustainability is a key component of the Cyborg Cats, with a 40% increase in mentor retention over the last three years we prioritize previous members guiding the next generation of STEM. We consistently document all of our events as well as train younger members and encourage them to participate in the events. Our demonstrations such as FLL Kickoff, Open House, Spirit of Saint Louis Air Show continue throughout the years because of our sustainable leadership model.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
An area our team aims to improve in is maximizing the use of all our resources. To address this, we have met with the Executive director of FIRST in Missouri to identify areas where we can contribute and are actively collaborating with her to establish a Student Advisory Board. We are also planning a STEM Advocacy Day at the Capitol, utilizing our resources of time, connections, and students.	
Briefly describe other matters of interest to the <i>FIRST</i> Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique, particularly noteworthy, or had a large impact.	
The Cyborg Cats have a history of effectively promoting FIRST and FIRST's mission and vision. We have consistently been hosting and co-hosting events such as Gateway Robotics Competition and the St. Louis Area FLL Kickoff. We have also done work corresponding to this year's theme with our growth of Atlanta Coral. Atlanta Coral is a federally protected species, and we are the only school in the US with a license to grow and cultivate this rare coral.	
Judge Feedback	
	Which of our outreach activities do you feel is the most helpful in promoting the mission and vision of FIRST? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	
The Westminster Christian Academy Cyborg Cats 4256 robotics team embodies the essence of Christian values, which fundamentally revolve around selfless service and prioritizing the needs of others. Our core mission statement —"We cultivate relationships, put God and others before self, and achieve our potential as we build a safe and cohesive community, focusing our talents on building our best robot"—underscores our unwavering commitment to those around us. This year, our primary objective is to secure funding so that every child has the opportunity to join a FIRST team. This February, the Cyborg Cats met with seven representatives and the Lieutenant Governor at the Missouri Capitol to advocate for FIRST funding. The team has championed initiatives like Missouri Sen. Travis Fitzwater's SB 33 and Missouri Rep. Bishop Davidson's HB 256 to secure financial support for FIRST robotics teams. Furthermore, we are currently planning a STEM Educational Innovation and Advocacy Day, tentatively set for April 2025 at the Missouri Capitol, to promote these bills and introduce FIRST to individuals unfamiliar with the program. The Cyborg Cats also founded the STEM Companion Initiative, a program designed to connect children with special needs to STEM. As part of this initiative, we demonstrate our robot and offer STEM-related games and activities. We have hosted over five demonstrations and events, including an Easter egg hunt, for our STEM Companion Initiative students. Additionally, we have created a website, stemcompanion.org, with publicly accessible resources.	

The Cyborg Cats have excelled in promoting FIRST Robotics in St. Louis. We have led group tours of our Westminster robotics facilities and coordinated multiple demonstrations—five this year alone. We also organized the FIRST space at the Spirit of St. Louis Airshow & STEM Expo, where we showcased our robot and hosted other FRC teams. Over the past two years, this event has allowed us to reach more than 2,000 people. Additionally, we coordinated a demonstration at the Museum of Transportation, hosting the Electric Eagles FLL Challenge team. At our Westminster Open House Demonstration, an annual event for the past three years, we have engaged with over 1,500 attendees.

For four years, the Cyborg Cats have hosted the St. Louis Area FIRST LEGO League Season Kickoff at Westminster, reaching 900 people over three years. Annually, we conduct a FIRST Robotics class at Camp Westminster, impacting 120 students in the past three years. In February, we organized a FIRST LEGO League Team Planting Workshop, guiding parents and educators in starting their own FLL teams. We also hosted a Women in STEM Seminar at Westminster, open to the public, which has reached over 100 attendees in the past three years. Furthermore, our female team members toured FSI, a chemical company specializing in foam manufacturing.

The Cyborg Cats have gone above and beyond in mentoring and supporting new and existing FIRST teams and events. Our teammates mentor Covenant Christian School's FLL Challenge Team, the Hedgehog Hackers. For the past few years, team members have also volunteered on Thursday mornings at a FIRST Robotics class at Twin Oaks Christian School. Additionally, a Cyborg Cats mentor assists Twin Oaks' Electric Eagles FLL Challenge team. This year, we helped the Hedgehog Hackers win the Champion's Award, advancing them to regionals. Beyond competition, some of our teammates recently accompanied the Hedgehog Hackers to meet with a patent lawyer regarding a device they invented for their Innovation Project. We later facilitated a meeting for the team at FSI, where students developed a foam buoyancy insert for their patent-pending invention.

Even outside of Missouri and the United States, the Cyborg Cats are making an impact. During the summer of 2023, several team members traveled to South Korea and visited the Samuel School. Before the trip, our team filmed an egg-drop experiment for the students. Upon arrival, we replicated this experiment and introduced other STEM activities from the United States. Our efforts inspired Samuel School to establish their own FRC team—the fourth-ever in South Korea.

Our outreach has also extended to Africa. As of 2024, we noticed that only two active FRC teams existed on the entire continent. Recognizing this significant gap in STEM education, we took action. A team member's family embarked on a service trip to Ethiopia, where they visited an elementary school. There, they led a STEM activity reaching 115 students, helping them transform water bottles into cars to highlight the importance of sustainability in STEM. The event was a massive success, and the children were overjoyed to receive robotics jerseys of their own.

The Cyborg Cats have played a pivotal role in advocating for SB 33 and HB 256, working to ensure equitable access to robotics programs for every Missouri child. In addition to our lobbying efforts, we hosted a FIRST LEGO League Team Planting Workshop, which was so successful that we will hold another on March 1, 2025.

As a testament to our team's dedication to innovation, Westminster Christian Academy is the only high school in the world licensed to grow Atlanta coral. We collaborate closely with our school's STEM director and have secured a dedicated room for coral cultivation. This conservation effort has flourished, thanks to our team's hard work.

As a 14-year-old team, the Cyborg Cats have a longstanding history of building robots and making a positive impact. Many students, volunteers, and corporate sponsors contribute to our success. Our team comprises 48 students, 22 mentors, eight corporate sponsors, two foundations, and one school (Westminster Christian Academy). The Cyborg Cats consistently host annual community outreach events and collaborative initiatives, as highlighted throughout this essay. We have also made significant strides in encouraging female participation in STEM, and our efforts have paid off—all of our business and engineering upper leadership is female!

The Cyborg Cats collaborate extensively in STEM education, engaging with adult FIRST mentors, Cyborg Cat alumni, legislators, other Missouri FIRST teams, and local elementary school students. We regularly communicate and collaborate with FRC teams like the Ratchet Rockers, Lutheran Roboteers, and Oakville Dynamics at GRC, our offseason competition. Additionally, we annually provide a practice field for the St. Louis and GRC regionals, serving 70+ FRC teams.

Recently, we endorsed a pro-STEM bill introduced by Jackson Reed from Team Broncobots, which proposes a \$5 million annual grant program for FIRST robotics teams. The Cyborg Cats actively support this initiative and collaborate with multiple other FRC teams to advocate for it. Once the bill reaches the House, we plan to lobby for its passage and train fellow FRC teams in lobbying techniques in Jefferson City.

The Cyborg Cats diligently document their outreach efforts. We recorded our February 1st FIRST LEGO League Team Planting Workshop, photographed meetings with FIRST Challenge teams and legislators, and preserved flyers from the Women in STEM and St. Louis-area FIRST LEGO League Kickoff events. For FRC kickoff, we annually compile rules and key drawings on Chief Delphi as a resource for other teams. Our extensive documentation enables us to replicate successful initiatives and assist other teams—both nationally and globally—in establishing FIRST programs and advancing STEM legislation.

The Cyborg Cats demonstrate exceptional communication skills. This year, we effectively engaged with legislators, organized and presented at multiple workshops and events, and wrote persuasive emails and handwritten notes advocating for SB 256 and HB 33. Team members recently met with the Missouri executive director of FIRST, Laura Roth, to discuss our ideas regarding the future and advancement of FIRST to better align our efforts with FIRST's mission and vision in Missouri. We also excelled at public engagement, leading facility tours, demonstrating our robot, and interacting with parents and students.

"Carry each other's burdens, and in this way, you will fulfill the law of Christ." - Galatians 6: The Cyborg Cats mirror Jesus' teachings about helping others by advocating for underserved students who lack resources to establish robotics programs, and serving our brothers and sisters in STEM.

Westminster Christian Academy's Cyborg Cats robotics team exemplifies Jesus' teachings by embodying the values of inspiration, as stated in Matthew 5:16, "Let your light shine before others, that they may see your good deeds and glorify your Father in heaven." Through the Cyborg Cat's diverse efforts of service, the Cyborg Cats inspire others to start their own FIRST teams. With the Cyborg Cats' legislative advocacy efforts, the team works to ensure that every Missouri school can sustain a FIRST Robotics team. The Cyborg Cats truly are shaping the future of STEM in Missouri and beyond.;

