

FIRST Impact Award - Team 8711

2025 - Team 8711
Team Number
8711
Team Nickname
The Midnight Ostrich Runners
Team Location
Broken Arrow, OK - 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.
Since 2016, our team has had a significant impact, with four students graduating and pursuing higher education in STEM, often earning scholarships thanks to FIRST. Alumni return to mentor and volunteer at FLL, FTC, and FRC events. Participation in FIRST has taught us teamwork, time management, communication, and leadership skills. Many of our graduates are pursuing engineering careers, and FIRST has provided valuable opportunities, shaping career paths and enhancing personal growth.
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.
We are a community-based team located in Tulsa, Oklahoma, working out of a cubicle in Sisu Energy & Environmental offices. Despite limited space, we benefit from access to experienced engineers & resources. Our students come from diverse school districts & homeschools across Eastern Oklahoma. We engage in outreach activities & support FIRST events throughout the tri-state area. While we face few language barriers, the team embraces cultural & socioeconomic diversity, enhancing our opportunities.
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.
Our team reaches the community through events like Maker Faire, Tinker Air Show, & CareerTech Summit, using robots like Bubblebot & Toolbot to attract visitors. We also provide interactive services at targeted events such as Girl Scout Badge-a-Thon & FLL Coach Training. This season, we helped start 8 FLL teams, 1 FTC team, & 5 FRC teams, providing new opportunities to over 130 kids. We share training & distribute information to help others join or start FIRST teams, spreading STEM & confidence.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST's</i> Vision.
Our mission is to spread the vision of FIRST through the science of fun in order to create a better tomorrow that is just a little less stuffy. We achieve this by making outreach events informative &

entertaining, ensuring smooth operations, & providing a true FIRST experience. Through camps, STEM kits, & robot demonstrations, we inspire kids by fostering dreams of engineering. Impacting our members' career paths to pursue engineering as we build strong relationships in the FIRST community.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?

The Midnight Ostrich Runners have a deep impact by training coaches to inspire kids. For example, we trained teachers in Lawton, OK, to become FLL coaches, helping create 8 teams and giving 80 students the chance to experience FIRST. In 4 years, we've started 9 FLL, 1 FTC, and 7 FRC teams, bringing FIRST to communities with no presence. We measure success by the number of people we've introduced to FIRST and the teams we've helped form, expanding opportunities for all.

Please provide specific examples of how your team and team members act as role models within the *FIRST* community with emphasis on the past 3 years. How do you share these best practices with other teams?

The best role models inspire others through their actions, so we set an example through our work. We support FLL by volunteering as judges & referees, event setup, tear down, building fields or trophies. At FTC & FRC events we help build the field and put it back in the truck. Through the year we share resources with teams in need & offer guidance on technical challenges. We focus on outreach by helping create new teams, training coaches, and connecting with the public.

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

There isn't another team in Oklahoma that does more to support FLL. Summer coach camps & team spark sessions like Windmill Day & Devon Demo Day help teams succeed by sharing our experiences and long slideshows. We run & support qualifiers & championships each season. We support FTC teams through technical presentations at kick-off & in-person assistance. We share robot parts and resources with both FTC & FRC teams. We start new teams in all programs by helping coaches find grant funding.

What other initiatives have you created, grown, sustained, or participated in (*FIRST* 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?

We inspire through action by hosting robotics camps, helping Scouts earn robotics badges, and volunteering at FIRST events. We've provided STEM career books and kits at Maker Faire and donated extras to the Tulsa Fab Lab. Our Bluetooth-controlled EV3 robots and Bubblebot draw crowds and spark interest in STEM. Our FIRST Rocks program offers a fun way for the public to engage with robotics, and we know we're making an impact when we're invited back to events year after year.

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.

We support FLL as partners with Jenks FRC team 31, Bishop Kelley FTC, Steam Post FTC, & run FLL events for the Oklahoma Science & Engineering Foundation in Oklahoma & Kansas. We have been recognized as a Maker of Merit by the Tulsa FabLab, we collaborate with the Tulsa Air & Space Museum on events. We run training camps on behalf of Devon Energy every summer. Our sponsor, Sisu Energy & Environmental, provides our workspace & helped save the Belize FRC robot from US customs.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

Our team is built on inclusivity & openness, welcoming members from all ethnic & economic backgrounds. We focus on teamwork, regardless of race, sex, or religion, & encourage everyone to participate equally in all aspects of the team. We ask only that members try their best, attend meetings, & contribute ideas. By working together across different fields & supporting one another, we ensure everyone has the chance to experience FIRST & grow, fostering a positive & inclusive environment.

Explain how you ensure your team and the initiatives you have created will be sustainable.

We balance tradition with adaptability, evolving our outreach efforts as we gain new skills and resources. Key to our success is adjusting our approach to meet diverse audiences while staying true to our core values. We value sponsors for their support, not handouts, & engage with them through interaction with mentors and site visits. Through outreach & fundraising, we ensure sustainability, recruiting new members, & fostering connections, especially with FLL teams that help grow our future.

Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.

Our team struggles with speaking up & sharing ideas, which our mentors help us overcome through methods like reading poetry aloud. We're working on improving through presentations & judge interactions. Time management is a challenge as we juggle FTC, FRC, & outreach, often starting FRC late & balancing both programs with FLL support. We sometimes divide to conquer. While our robot may not always be the best, we prioritize giving others the opportunity to experience FIRST over perfection.

Briefly describe other matters of interest to the *FIRST* 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 Midnight Ostrich Runners program was created to address an availability gap in our FIRST community. We are not a school-based team, & no one forces us to participate. We are here because we truly love the FIRST experience. The supportive family atmosphere within our team motivates us to dive in & explore new challenges. Our differences make us stronger & we make a significant impact because we want others to experience the same sense of belonging we have found on this team.

Judge Feedback

After every event, competition, or outreach, we gather up and try to be as honest as possible with each other about our work by asking this same question. What did we do right, what did we do wrong, and what can we do better?

An area the team has an opportunity to improve.

Something that really impressed the judges.

Essay

Ahoy there! Dive in and meet The Midnight Ostrich Runners, a team formed in 2016 to fill the STEM gap in our community. We started as FTC team 11354, but in 2021 we took the plunge into FRC as team 8711. Operating in the waters of Sisuv Energy & Environmental, we provide a safe harbor for aspiring

engineers and bring FIRST to students without access. Our funding comes from currents like DoD STEM, Boeing, Gene Haas Foundation, & Argosy Foundation, though we occasionally fish for donations from local companies. We start each meeting with a "Safety Moment" to keep things on an even keel. Our coaches are mechanical engineers who keep us afloat, with additional mentors from American Airlines & Boeing, ensuring we're on the right course. With 6 members from 3 schools, we're dedicated to creating teams—not poaching from them. This is not a classroom activity for us; there are no grades involved, just passion & commitment. Each member is here because they want to be. We think FIRST Rocks & so should you. Each season we decorate rocks with STEM paintings & hide them in obvious areas for people to find. We place our social media tags on the back of each rock. It's our way of "casting a wide net" and spreading the word about the amazing opportunities FIRST offers.

We're not just about building robots; we're about building relationships. From museum demonstrations to major events, we engage students, parents, and future coaches with interactive robot demonstrations. Here's a snapshot of our outreach events: Science Museum Oklahoma (OKC) Tulsa Air & Space Museum Aerospace Advocacy Day at Oklahoma Capitol Tulsa Discovery Lab Boeing Family Day CareerTech Summit Faire (Shared FIRST with over 2700 middle and high school teachers in 2022, 4000 in 2023 & 2024) Tulsa Maker Faire: 2021, shared 17 robots with 1000+ people 2022, shared 13 robots with 3400+ people 2023, shared 19 robots with 3597 people 2024, shared 17 robots with 5000+ people Additionally, we've been part of events like the Tinker Air Show STEM Hangar where we shared robots with 301,000 spectators & have been invited back for 2025. I scream, you scream, we all scream for ice cream, and we did on June 22nd, 2024, at the Blue Bell Taste of Summer in Broken Arrow. Over 650 folks "scooped" up information about FIRST while indulging in all-you-can-eat ice cream. Now, that's a cool way to spread STEM! Our outreach efforts also took us to the Tulsa Drillers Stadium on May 31, 2024, where our robot BubbleBot hit one out of the park distributing FIRST info to excited spectators. This event combined America's favorite pastime with a love for STEM. The Girl Scouts of Eastern Oklahoma asked for help with a Robotics Badge-A-Thon in March 2022. We ran 4 sessions with groups of Girl Scouts, teaching them how to program EV3 robots & how to present their designs to an audience which helped 140 scouts receive a total of 420 badges.

We love helping others get their feet wet in robotics & at free summer camps we taught 295 students in 2021 & 22 how to build & program LEGO robots at Lindbergh Elementary where we also mentored 3 FLL teams & helped run events like Santa Shop & Fun Night to fund their robotics programs. We provide training for teams & coaches through in-person presentations, videos, tech visits, & published guides. The coach course we have developed takes them through a full FLL season in a week or a cram session in a day.

Following the success of our weeklong coach training camps we were contacted by Mayor Booker of Lawton, who invited us to introduce FIRST to a group of 30 community leaders from the school district, businesses, churches, & home school groups in 2023. Our presentation covered all FIRST Programs demonstrating FLL, FTC, & FRC robots while answering questions & sharing our experiences. We were later contacted by Vanessa Perez, Assistant Director of Educational Technology & we helped her find funding to start 8 new FLL teams 4 Lawton schools. We then taught a weeklong coach training camp in July of 2024 with rookie teachers that resulted in 80 kids finding FIRST.

There isn't a single FIRST team in Oklahoma that does more for First Lego League than The Midnight Ostrich Runners. Each season our team members, coaches, mentors, & alumni volunteer as referees, judges, & event staff to support FLL events. Between 2021 & 2024, we've supported 9 FLL qualifiers,

supporting 176 teams. We've also run FLL Championship events in Oklahoma and Kansas-Central, ensuring 154 teams have the best possible experience. In addition, we've built championship trophies & field elements for both regions, contributing to the smooth operation of these important events.

In 2022 we discovered that many FLL teams were having difficulty with the Innovation Project, so we generated a plan to spark ideas through a hands-on activity. At Windmill Day we provided windmill kits to 22 FLL teams, walked them through the construction process, & tested their mini power stations. We discussed problems they encountered with windmills & real-world problems with electric generation & transmission to energize them to complete their projects.

At FTC kick-offs we have taught multiple sessions in team branding, power transmission, & bolted joints. We have also provided one-on-one training for several FTC coaches & teams over the years. We take extra parts to competitions to support teams & help rookies finish their robots. We also share models of parts so teams can 3D print their own. In 2022 we developed a Cookbook for Road Runner, a motion library used for programming autonomous, including detailed steps, code clips, & tips.

In 2024 we started an FTC team at McClain High School, helping train their coaches, finding funding for parts and registration and donating over \$700 of parts to get them started.

We do not limit our support to Oklahoma & in 2022 FTC team 22801 from Kazakhstan contacted us on Instagram asking for assistance sourcing critical electronics for their control system. We donated mecanum wheels, cables, motor speed controllers, & a power hub to fill their needs.

The international cooperation didn't stop there, when the Belize FRC robot was stuck in customs, our sponsor, Sisu used their border broker to import the 9244 Belize robot in time to play their first match at the Green Country Regional where they qualified for Championship. To avoid another border blunder, we transported their robot to Houston from Tulsa. Knowing their limited resources, we gave them motors, gearboxes, and some new tools. 9244 thought they had figured out how to get their robot home, but that fell through on the last day. To ship their robot via FedEx, we built a crate using lumber from the championship practice field during elimination matches.

In FIRST, it's not just about robots; it's about building relationships. We've helped start FRC teams across the state, providing everything from guidance to funding. In 2022 we devised a plan to expand Muskogee FTC team 4155 by starting FRC team 9007. We helped them source funding, tools, parts, & provided training. We did it again in 2023 by starting FRC team 9462 in Tulsa from a program with 4 FTC teams & again sourced funding & guided them into FRC. For 2024 we upped our game and started 5 new FRC teams across the state with the help of an Argosy grant. In Lawton we started FRC team 10378 so our new FLL kids would have someplace to go in the future. An FLL team in Shawnee aged out this season and followed our lead to form FRC 10661. Our outreach efforts at Boeing in Oklahoma City were noticed and a group of parent employees formed FRC 10377 with our support. We also transformed two existing FTC teams using our plan; FRC 10674 at Metro Christian Academy & FRC 10626 at Moore high school.

Maintaining teams is just as important as starting teams & in 2022 we donated \$1000 of our funds to allow FRC team 3507 to compete.

For the 2022 FRC season we designed a 3D signal light mounting bracket & printed one for every FRC

team in Oklahoma. The design is now included on the AndyMark website, free to all teams.

Since joining FRC, each season we help build & tear down the field at the Oklahoma & Green Country Regionals. When state CSA Will Brown mentioned that he could be more effective supporting teams if he had a test robot, we donated our first FRC robot to benefit the state. This year we also donated a new radio to Will to help him troubleshoot issues to support teams with the new hardware. While it is hard to raise funds for a single team, it is even harder to raise money to support the FRC competitions in the state which together cost over \$200,000 each season. On March 22nd, 2024, we demonstrated FIRST robots for Koch Engineered Services in their cafeteria during lunch. We were able to recruit them as a sponsor for the state in the amount of \$5,000 after we almost knocked out a ceiling tile under the direction of their engineering manager.

We don't just aim to build the future; we also work to reconnect with the past. In 2022, we created an "Alumni Choice Award" to encourage FIRST alumni to return to events. While alumni might not support something as big as FIRST itself, they will support their old teams, especially for an award. Based on the local response we have sent a formal proposal to Michelle Long, FIRST Alumni Relations Manager to make the ACA an official award.

The Midnight Ostrich Runners may not be a traditional FIRST team, but we're effective, fun, & swimming with enthusiasm. FRC team 8711 has created lasting connections with sponsors, supported teams across the state & around the world, to inspire the next generation of engineers. Through hard work, collaboration, and a little bit of humor, we're proud to say we make a splash wherever we go.

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