

FIRST Impact Award - Team 3604

2025 - Team 3604
Team Number
3604
Team Nickname
Goon Squad
Team Location
Brownstown, MI - 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.
3604 inspires students to be STEAM leaders beyond high school! As a result of being in our FIRST programs, students have received internships at General Motors & Altair Engineering. 100% of students graduate & 100% seek further education at colleges such as UofM, MTU, Kettering, & Princeton (95% in STEM fields vs 17% state-wide). Our expanding alumni network reflects our success, with 45% of mentors being FIRST alumni & more returning each year to support our work as volunteers & sponsors.
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.
3604 is proud to be from Downriver, MI, a region of 11 cities running west of the Detroit River. Massively built upon the automotive industry, we take advantage of the opportunity for partnership & have worked with 91 partner organizations in 3yrs, including the “Big 3” Michigan automotive giants (Ford, GM, Stellantis), to sustain our work. From running inclusive events to meeting with state politicians, for 15yrs we have worked throughout our community to make ROOM in STEAM for EVERYONE.
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.
This season we completed our District-Wide FIRST Hub, crucial for spreading FIRST's Mission far & wide. From newspapers, websites, & TV broadcasts we have shared our message with 127,500+ community households, all 50 states, & 66 countries. Locally, we engage people ages 6-100 by hosting events open for all ages & visits to nursing homes, reaching previously untapped audiences with outreach. Our impact is built to last, sustained by mutually beneficial partnerships within our community.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST</i>'s Vision.
Our unique school partnership makes STEAM education as accessible as football! To transform our school's culture to celebrate STEAM, we built & expanded FIRST programs for 100% of local 5th-7th graders. Our facility serves as a sustainable launching point to educate these students, facilitating a 7-

week in-house FTC Camp & houses 6 of our 14 FIRST teams. To ensure local students have STEAM access, we collaborated with our curriculum director to offer Robotics I & II classes to all WHS students.

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

We measure our impact by the number of people we engage & our success in making ROOM in STEAM for EVERYONE. Through our initiatives, both online & in-person, we have reached an audience 30x the population of Woodhaven. Our free FTC Camp has ignited the dedication for STEAM in 80 students in 3yrs, with many continuing their passion by joining 3604. This season, 77% of our FRC rookies were in previous district FIRST programs due to our camp, mentoring, & engaging lessons.

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?

3604 is happy to contribute our time & knowledge; our Code of Ethics drives this mindset & is shared on our website. Supporting teams in need, we published 9 resources, hosted 4 preseason Coding Seminars, volunteer at FIRST events, maintain an open door policy, & work with state government to expand FIRST sustainability. Directing other teams toward success drives our ethics: when FRC 5050 needed support with their FLL Expo, we helped to provide & sustain a student volunteer base.

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

Our District-Wide FIRST Hub is a collaborative space for students exploring their passions, providing resources for 16 FIRST teams & bringing FIRST access to 4,700 students. We supply student-mentors for all FIRST teams in Woodhaven & host kickoff strategy sessions for Downriver teams. In 3yrs we have assisted, mentored, or started 27 FIRST teams. This season we created 6 educational resources from scratch & started & mentored 4 FLL teams in our new facility.

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?

In the past 3yrs 400+ students have been enrolled in district FIRST programs & we reach far & wide across our community to engage more. Inspiring girls representing 19 MI middle schools, we led a hands-on robotics seminar alongside GM & UofM at the AAUW STEM-Savvy Conference; one of these girls joined 3604 as a result. To support students beyond their 4yrs in HS, for 10yrs, we have provided scholarships to graduates, awarding \$15K in the past 3yrs toward students' dreams!

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 collaborated with Altair Engineering to introduce free, high-quality CAD software to all FiM teams. Utilizing our FIRST experience, we regularly visited Altair's facility to support in tailoring their software (Inspire) for FIRST specifically. We provided crucial feedback that was presented to Dean Kamen by Altair reps. & presented Inspire to 624 FiM teams via video conference. Today, our partnership with Altair remains strong, with 30+ Altair reps. attending our events in the past year.

<p>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.</p>	
<p>Leveling the playing field for women in STEAM, we created the Goonettes Invitational in 2019, our all-girls off-season event. With 55 teams internationally, Goonettes is the largest all-girls off-season FRC event worldwide. In 3yrs, we have trained women specifically for key volunteer positions & reached 57,000+ households with our inclusive mission via broadcasted media. Since 2019 we have partnered with SWE, who bring in hands-on STEAM activities & highlight the value of women in the field.</p>	
<p>Explain how you ensure your team and the initiatives you have created will be sustainable.</p>	
<p>We teach students the fundraising & sponsor acquisition that sustains our team. By reaching 200+ local companies, universities, & organizations (3yrs), we gained+maintained 91 partners who support us in offering the best programs possible. Aiding the sustainability of FIRST state-wide, we work with our state government to advocate for STEAM ed funding. With Senator Camilleri, Chairman of the PreK-12 School Aid Budget, we are working to rebudget Michigan's grant allocation toward FIRST programs.</p>	
<p>Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.</p>	
<p>With the graduation of multiple team leads last season, knowledge transfer between rookie & veteran members became a priority; however, there were gaps in our training. To adapt, we created reusable Rookie Scavenger Hunts specifically to connect rookies & veteran members. We encourage rookies to take leadership in our work, including mentoring, FTC Camps, & annual workshops; 50% of our FTC mentors are rookies! Finalizing our training, we created a team handbook tailored for all students.</p>	
<p>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.</p>	
<p>Since 2019, Goonettes has brought 16 STEAM organizations into our one-of-a-kind Hands-on Hallway (HOH). The HOH facilitates crucial interactions between women, top engineering universities, & Michigan STEAM companies. 3604 alumni & students take charge in hosting booths alongside STEAM-field professionals & experts, including engineers working for GM, Stellantis, & Ford. This year, Bosch & Altair partnered to sponsor Goonettes, with Altair now sponsoring all Woodhaven FRC events.</p>	
<p>Judge Feedback</p>	
<div> <div></div> <div> <p>What can we do to better convey our impact?</p> <p>An area the team has an opportunity to improve.</p> <p>Something that really impressed the judges.</p> </div> </div>	
<p>Essay</p>	
<p>A LOT CAN HAPPEN IN 15 YEARS. For the past 15 years, The Goon Squad, Team 3604, has been more than a robotics team; we are a force for connection, growth, & inspiration in our hometown of Woodhaven & the Downriver region. Downriver, a community of 11 automotive cities running west of the Detroit River, has transportation depots and car manufacturers on every corner. Guided by mentors, two-</p>	

thirds of whom bring real-world experience in the automotive field, we are committed to breaking down barriers & creating opportunities. The Goon Squad is not just building robots; we are building a future where diversity, inclusion, & a passion for STEAM drives our community forward, making ROOM in STEAM for EVERYONE. MAKING ROOM IN STEAM FOR ALL STUDENTS:

In a community where only 27% of people have a 4-year degree or higher, we are among the few hands-on STEAM programs available to most students. We reach as many students as possible through our work, completing our District-wide FIRST Hub this season, a maker space with doors open to everyone. Serving 150 students across 14 district teams, our Hub is a driving force for growth & collaboration. This season, we have started 4 new FLL-C teams, mentored 100% of Woodhaven teams, & empowered 48% of 3604 members to mentor younger teams at every meeting & competition. In it's first year, our Hub has become a dynamic educational space, home to 6 FIRST teams, a launching point to create 9 educational resources, a venue for workshops, & a platform that attracts the attention of media outlets & state politicians alike.

From elementary onward, we support students to become the STEAM leaders that define Downriver. In addition to volunteering for FRC, FTC, & FLL year-round, for the past 2yrs, we have proudly co-hosted the "Tinker Tots" FLL Expo alongside FRC 5050 Cow Town. As co-hosts, our members managed everything from setting up, judging for awards, spearheading activities, hosting robot demos, & tearing down after. This FLL season, we are honored to take full leadership of this Expo.

To further inspire students, we support an annual 7-week long FTC Camp through student mentors, build space, & tech resources (3D printer, laptops, 2 bandsaws, etc.). In 3yrs we have reached 80 middle school students, growing their experience in foundational robotics, Java programming, & competition strategy. The Camp's impact is evident across our team: 44% of our current rookies are Camp alumni, & 50% of them have returned to mentor the next generation of FTC students. From all of our team's code, award submissions, and our "How to Outreach" guide, we provide FIRST students every resource to succeed.

3604 is dedicated to supporting students at every stage of their journey. For students unable to join after-school robotics, we worked with our curriculum director to offer curriculum-integrated Robotics I and II classes to every WHS student, expected to run for the first time next semester. In 2 semesters this class will provide STEAM access to >54 students.

For 10yrs we have provided scholarships funded by our annual Trivia Night, assisting graduating seniors to pursue their dreams! In 3yrs we have awarded \$15K in financial support to WHS students at universities, trade schools, & even the U.S. Military. However, we recognize that financial support is not enough to ensure a successful future in STEAM; students need connections, mentorship, & opportunities.

With the support of 10 STEAM companies, universities, & organizations spanning from Detroit to the Upper Peninsula, we host a one-of-a-kind off-season Hands-on Hallway (HOH). The HOH connects students to potential opportunities while engaging them in exciting, hands-on STEAM activities. Students connect with the "Big 3" Michigan automotive companies (GM, Ford, Stellantis) and network with the top 2 engineering universities in the state (UofM, MTU). In 3yrs, students representing 66 FRC teams have visited to experience this unique opportunity! Our open-door policy invites the broader community to explore this awesome technology, such as GM's Boston Dynamics Robot Dog, Stellantis' VR headsets, &

MASA's model rockets. As the HOH is a central feature of our all-girls off-season event, the Goonettes Invitational, we invite SWE to showcase fun STEAM activities & the vital role women play in STEAM.

In a predominantly male field, The Goonettes Invitational serves as a platform for girls internationally! With 55 FRC teams with all-girl drives teams, Goonettes is officially the world's largest all-girls off-season FRC event. This groundbreaking event empowers women internationally to take charge of the robot, pit crew, & train for key volunteer roles; 75% of 2024 key volunteers were female!

We partner with local media outlets to amplify the message of Goonettes: WDIV 4 (Detroit Local 4) visited the event, broadcasting interviews & videos of girls controlling the robots to 57,000 homes. Across WDIV 4, The News-Herald, Dearborn Heights Times, & Downriver Sunday Times, we have shared the values of Goonettes with 127,500 local households, showcasing that girls can (and do) excel in STEAM. To take this event further in 2025, we will be partnering with the LGBTQ+ of FIRST as a Gold Tier partner to emphasize the importance of inclusivity in STEAM by hosting an LGBTQ+ representation seminar & producing marketing materials.

Our work, however, would not be possible without our generous sponsors, who assist us in hosting outreach, events, & sustaining our team. Over the past 3yrs we have built a strong partnership with Altair Engineering, assisting them to become actively involved in FIRST. This collaboration has helped provide CAD resources to all FRC teams & helped Altair transition from a FiM sponsor to a Bronze-level sponsor of FIRST. Together with Altair, we have expanded access to vital CAD software by helping tailor their "Inspire" program specifically for FIRST Robotics. Through multiple visits to their facility & providing valuable feedback that was presented to Dean Kamen, we helped refine this tool. We presented Inspire to 624 FiM teams via video conference & invited Altair to our HOH, where they showcased their software & resources for FIRST. However, their assistance has gone beyond providing software; they have supported us by sending 30+ company reps to our events in the past year alone & assisted in hosting the 2024 Goonettes Invitational with Bosch.

MAKING ROOM IN STEAM FOR THE COMMUNITY:

Downriver is a hub for industry, with a thriving automotive culture. We take advantage of this opportunity for partnership & have worked with 91 partner organizations in the past 3yrs to amplify our mission. 83% of these organizations sponsor our team, outreaches, and/or events via both monetary & resource donations. One particular partner, Jabro Carpet One, contributed \$700 worth of carpet for a practice field in our new hub & sponsored a hole at our annual Golf Outing. 20% of these organizations connect us with outreaches, including Fish & Loaves Food Pantry, Woodhaven Kiwanis, and the local Michigan House Senior Living Retirement Home.

Spreading our excitement at outreaches & events, our students are enthusiastic & proud to be in FIRST! Whether it is annually ringing the Salvation Army Bell, prepping 240 meals/min for Kids Against Hunger, or crocheting a dozen stuffed animals for children leaving a local hospital, we strive to better the community that generously supports our team. In 3yrs we have reached an audience 30x the population of Woodhaven through outreach.

Students take charge in the entirety of our outreach, volunteering time to organize & create new initiatives. Last Fall, in order to brighten the day of local seniors, students launched "Love, Someone Who Cares," an initiative that spans all progressions at our District-Wide Hub. We partner with a local

retirement home to gift residents candy, flowers, & hand-written cards for holidays; this past year alone, we have passed out 120 cards made by students on district FRC, FTC, & FLL teams. At our annual Season Recap, students presented to our School Board & demoed our robot, highlighting the benefits of district FIRST programs & thanking them for their continued support. To expand the reach of FIRST across Metro Detroit, students visited Wayne County Community College to host a seminar alongside GM & UofM at the AAUW STEM-Savvy All-Girls Conference. We met girls representing 19 local middle schools by showing off our robot & teaching them about STEAM.

Now that we have extended our facility to FTC & FLL teams, we have gained firsthand insight into the significant challenges these lower-level teams face in securing sustainable funding. While Michigan's Robotics Grant provides essential support to FIRST teams state-wide, it falls short of covering the basic resources needed for a team to succeed, especially during the rookie season. Determined to find a solution, we met with State Senator Darrin Camilleri, Chairman of the PreK-12 School Aid Budget. Recognizing the importance of FIRST programs, Senator Camilleri tasked us to produce our own proposal to restructure Michigan's Robotics Grant. Our proposal will be reviewed this April, which aims to allocate state funds to support Rookie FLL & FTC teams further & purchase FLL robotics kits.

"WEAR THE SHIRT REPRESENT THE TEAM,"

...is what we've reminded ourselves of at every outreach event, competition, & presentation. Putting on a Goon Squad shirt means carrying on our legacy: 15yrs of mentoring, supporting teams, hosting outreach, establishing partners, & making ROOM in STEAM for EVERYONE! From creating the world's largest all-girls off-season FRC event to spreading STEAM resources worldwide, we are doing what we never thought we could accomplish, but with 15yrs, & many more to come, we have found there is no limit to what we can do.;

