

Chairman's Award - Team 2080

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2022 - Team 2080

Team Number

2080

Team Nickname

Torbotics

Team Location

Hammond, Louisiana - USA

Describe the impact of the *FIRST* program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in *FIRST* programs as mentors/sponsors.

Within the last 3 years, Torbotics has strived to normalize the idea that anyone can go pro in STEM in our area. We have seen a growth in both the number of students enrolled in our school engineering program (236) and the number of active members on our team (43). With 137 alumni, 2080 boasts a 100% graduation rate with 98% moving on to major in STEM and/or become involved in STEM related career-fields. Of those, we have seen the growth of female and POC students double in size.

Describe your community along with how your team addresses its unique opportunities and circumstances.

Our team is located in rural SE LA at a crossroads b/n I-20 & I-55. 2080 is housed at Hammond High Magnet School. We're Title 1, as are most of our feeder schools. The Poverty Rate in LA is 19.6%. Hammond's rate is dramatically higher with 34.1% living in poverty. 52.4% of African Americans live below the poverty line. This is our target population. We instituted a comprehensive Risk Analysis & Assessment tool 5 yrs ago to help us plan annually for & address the unique challenges entailed.

Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?

Our mission to #putSTEMFIRST, is our guide to develop a dynamic & sustainable outreach/marketing plan. Based on projected needs of our team & community each yr, we develop 3 additional focus points to dynamically meet metric trends & feedback. We focus on interactive mentorship to build relationships. We share our journey with policy makers during events like the LA STEM Summit. We get feedback after each event, review media analytics & maintain a dialogue w/ 9 local K-8 schools.

Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.

We are often called on to serve as volunteers for events in partnership with other FRC teams. Due to the broad experience of our members across multiple *FIRST* programs, we are often asked to serve as event & trng collaborators throughout LA, especially in providing technical assistance to facilitate remote events. Last year, 1 of our members was recognized as 1 of Louisiana's 2 FTC Dean's List Finalists, & 2 other members were chosen as FRC Dean's List Finalists for the Southeast Region.

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

Over 16 yrs we've started/mentored 31 *FIRST* teams, including 1 in Albania that still gets support. 81% of members began on *FIRST* teams we mentor. Over past 3 yrs, we've started 4 teams, assisted reinstating 3, & facilitated 12 FLL, FTC & FRC Jumpstart trngs. We've hosted 7 Chairman's Ex trngs & regularly contribute to FRC sharing boards. We publish videos for FLL & post ex of our Purple Print business & team devo. We recently secured technical mentorship from SLU for 26 regional *FIRST* teams.

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

We avg 27 events, impacting over 23,000 annually for the past 16 yrs. We accomplish this thru our Purple Print with STEM Cafes, ASTRO CAMPS, SPARK, STEMulate, social media campaigns, open houses, sponsor showcases, & multiple demo requests. We provide collaborative STEM bell ringers & maintain a STEM poster/branding campaign at feeder schools. 93% of members 1st learned about 2080 thru outreach. We inspired the devo of 23 new ASTRO CAMPS last summer & 3 STEM classes @ rival high schools.

Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years

We are founding members of the Tangi STEM Coalition. Rebranded as the Northshore STEM Coalition in 2019, we recently used this platform to spearhead the development of technical university-based mentor support for 26 *FIRST* teams in our region. We were key members in creating & launching the Coalition's 1st mobile STEM lab in 2019 & were recently asked to be collaborative partners in the development of Tangipahoa's STREAMliner learning bus, which just launched.

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

In August 2020, we spearheaded the development of a coalition with area churches & local leaders to address a need to elevate the importance of pursuing STEM in our local African American communities. Utilizing relatable role models, we created SPARK to empower underrepresented students. We've made a conscious effort to partner across all departments at HHMS to create fun projects highlighting STEM that appeal to a broader range of students. We look for teachable moments to ensure inclusion.

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

We've learned that documentation is critical to the longevity of our initiatives. Every season our team works to develop seasonal initiatives based on feedback & various metrics. We've seen this implementation work in creating a more diverse & welcoming environment on our team. We've found sharing lessons learned across the board and cross-training are some of the most crucial aspects in the upkeep of our team. These practices have allowed us to maintain past knowledge & grow as a team.

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years

To recruit new sponsors, we initiate contact with local Chamber of Commerce & business organizations to receive lists of potential donors. We then determinedly seek sponsorship through in-person meetings, phone calls, & emails. We've been able to actively sustain and engage our sponsor base thru comprehensive business objectives keeping sponsors up to date & highlighting the impact of their contribution in our print & digital materials. We maintain a sponsorship tier system with sponsor input.

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

As our team grows & improves inclusion, transportation is an issue. We have members traveling up to 40 miles daily just for meetings & others with no means of transportation after school. Located well outside city limits, our school was recently awarded funding for afterschool busing, however, only for those in academic jeopardy. Having access to this transportation would allow us to create more opportunities. We have added this to our #promoTORSofSTEM campaign as we petition approval.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

#putSTEMFIRST is our motto, our guide to pursuing the shift needed to elevate perceptions & interest in STEM through *FIRST*. At the start of each season, we meet as a team to plan the yr's initiatives to advance our motto based on student interest & changing needs. This yr's initiatives are to be #promoTORSofSTEM reinventing ways to ignite STEM opportunities for youth, #resilienceinSTEM recognizing the sustaining force *FIRST* has provided our students & community, & celebrating our #FIRST^16.

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 or particularly noteworthy.

Torbotics strives to always provide more meaningful and sustainable opportunities in our community. To achieve this we institute yearly Risk Analysis/Strategic planning mtgs. Starting in 2017, these mtgs allow us to give members a safe platform to share thoughts & experiences, review feedback from outreach & mentoring, as well as review metric data to develop next season's matrix & initiative framework. This allows us to develop achievable & impactful initiatives & goals annually.

Essay

How do you quantify one's reach? How do you measure the influence of student engagement and the significance it's played to alter the cultural climate of a region? What does a pathway to systemic change in promoting diverse, positive images in STEM look like? What can a group of students do to spark, spread, and sustain this change in rural southeast Louisiana?

For Torbotics, FRC Team 2080, this journey began 16 years ago. In the time that's followed, Torbotics has redefined what impact means for our region. #putSTEMFIRST is more than just a slogan, it's our motto, developed 5 years ago to further our resolve and help build momentum in honing our outreach focus thru FIRST. FIRST is our tool to make STEM available to all, especially for those who don't normally see themselves represented and capable in STEM. While we realize the considerable work remaining, we've witnessed a seismic shift in our area's way of thinking and will stay the course to see it through. We believe greatness isn't about winning, it's about developing opportunities to inspire the creation of a winning region.

#promoTORSofSTEM

Starting out as an afterschool club consisting of an average of 17 students during its first 3yrs, 2080 quickly sparked a 4-year engineering program at our school with 5 classes & 140 students. As a result of our commitment to quality outreach, the HHMS engineering program now encompasses 10 classes, 9 of which are endorsed by LSU STEM Pathways, impacting 236 students annually in addition to 43 active team members representing three schools. We were recently asked to assist in developing similar STEM focused programs at four additional high schools; a huge step for these previously resistant communities & our school district. Twelve STEM-focused magnet schools have been established in our district in the past 16 yrs, with the positive impact of 2080 to enhance overall school climate and attendance noted as an influencer.

We have a sustained average of 27 outreach events annually whether remote or in-person; taking place in schools, civic organizations, community centers, churches, large community venues, athletic events, and government and professional centered marketing events. This has resulted in a total of 303,130 meaningful, direct youth and family contacts since our inception, not including our active social media, print and television and internet presence. We are founding members of the Tangi STEM Coalition, started in March 2017 to gain the commitment of community, business, university, and K-12 education leaders. It was founded to spark collaboration and leverage focus to build more STEM-centered opportunities across our parish. Rebranded in 2019 as the Northshore STEM Coalition, we recently used this platform to secure technical and support mentors from Southeast Louisiana University for FIRST teams throughout the Southeast/Northshore region to include direct support for 6 FRC, 11 FTC, and 9 FLL teams. Having been a key member in developing, constructing, and marketing the coalition's first mobile STEM lab (the Brain Food Truck) in 2019, we were asked to be collaborative partners in the development of Tangipahoa's STREAMliner; a converted bus packed full of activities focused on Science, Technology, Reading, Engineering, Art, and Math for use in schools throughout our district.

When we started our summer science camps just over 12 years ago, we were the only camp in our area to offer youth ages 6-13 years old, something that was specifically STEM based. Five years ago, we became a collaborative partner with NASA's HEO ASTRO CAMP. This quickly became a huge draw sparking others to develop additional ASTRO CAMP sites throughout our region. During the summer of 2020, we decided to create 3 remote platforms for our ASTRO CAMPS developing extensive videos and materials for youth to be able to do at home. When our schools started virtual in August of that year, our district quickly decided to utilize our 3 remote platforms as science enrichment for K-8 teachers to utilize in their schools, impacting 15,382 students regionally. These platforms were so successful that the district chose to host ASTRO CAMPS as a part of 23 different summer schools in 2021, with the team serving as a collaborative partner for training and support. NASA had us present lessons learned in the development of these platforms for other partners throughout our country and internationally.

#FIRST^16

FIRST to the power of 16 is our initiative to pay tribute to our team's roots and to hone our focus on defining the longstanding impact of our team on its members, our district and beyond. Our goal remains to inspire greater support for the cultivation and advancement of FIRST in our region. With 137 alumni, 2080 boasts a 100% graduation rate with 98% moving on to major in STEM and/or become involved in STEM related career-fields. This is 31% stronger than our district's average graduation rate and 57% stronger with respect to those noting an interest in STEM studies. In our school alone, the number of students graduating with an interest in pursuing STEM-related career paths has quadrupled since the launch of 2080. Similarly, the level of diversity represented in our engineering classes has also reached an all time high of 68%, in line with our school's diversity of 63%. While this is still not fully represented in the team's demographics due to complications with a lack of after school transportation, this discrepancy is changing with our numbers doubling in just the last two years. Through instituting meaningful self-reflection and not being afraid to have tough conversations, we look for ways to constantly improve in this area.

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While our members have always had the opportunity to earn Varsity Jackets as part of their membership in FIRST, in response to the global pandemic, our district chose to recognize the importance of 2080 still being able to operate and meet safely as a team granting us full recognition as a sport. This has allowed us to meet and compete from that point forward in accordance with the Louisiana High School Athletic Association guidelines. Similarly, our seniors participate in a Signing-Day annually which receives press throughout our school and local community. With 98% of our alumni "going pro" in STEM-related careers post-FIRST, the ideals of gracious professionalism similarly remain strong with 71% of alum continuing on to either mentor a FIRST team or assist with an event in one of many volunteer roles.

Throughout our history, putting STEM FIRST has meant starting and mentoring 31 FIRST robotics teams, and assisting hundreds of others, including a team in Albania where one of our original 2080 alumni is still involved. We are known throughout our region for assisting with FIRST events and team development at every level; promoting the sustainability of all both in person and remotely. Known for our purple shirts and a genuine desire to help others, we aim to inspire youth and provide lawmakers, community leaders, and educators with our Purple Print to develop a strong program culture bound to STEM.

#ResilienceinFIRST

"Resilience in FIRST" is our initiative to recognize the sustaining force FIRST programs have provided our students and community, leading to the development of superior 21st century skills like no other program in our region. There will always be unexpected hurdles in life. Through utilization of our comprehensive risk analysis and assessment planning tool the past 5 years, we've learned to adapt when we can and innovate when we have to in order to stay true to our mission. This adherence to planning and perseverance has been critical to helping us maintain and grow our sponsor and technical mentorship over the past three years despite uncertainty and widespread changes faced amid the global pandemic and in navigating the damage and flooding of our shop following Hurricane Ida in August and September 2021. Through participation in 2080, students develop a healthy level of resolve & optimism, which allows us to keep coming back to the program and its core values. Through self-reflection, we've been able to forge greater connections with alumni, forming stronger bonds, and bettering our team.

FIRST is our tool to develop leaders and innovators who value collaboration and will rise to tackle problems and find solutions. We make a difference everyday within our team by providing students the chance to be a part of something greater than themselves - to be the change they wish to see in our region. It's more than just the banners hanging on our walls, it's about paving the way for the next generation so we can make a difference while developing ourselves and a more inclusive community. We don't just build robots, we build risk takers, communicators, and thinkers.

Our Purple Print is working. Our region is changing. We are #promoTORSofSTEM. Tangi is ready to #putSTEMFIRST. How 'bout you?