

TEAM ACTIVITIES

ABOUT

While we are super proud of our robot and it is a big component of our team, FIRST means so much more than just the robot. Spreading awareness about FIRST, connecting and volunteering in our community, as well as connecting with Engineers, and bonding as a team is extremely important to us and our mission.

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TEAM EVENT SCHEDULE

DATE	EVENT	116 TOTAL TEAM OUTREACH HOURS	474 TOTAL INDIVIDUAL OUTREACH HOURS
April 26th, 2019	Team recruiting presentation at Albuquerque Reformed Church	2 hours	6 hours
May 4th, 2019	FTC Recruiting event at Nex-Gen Academy hosted by our team	4 hours	24 hours
May 5th, 2019	FIRST Day at the Natural History museum	4 hours	12 hours
May 21st, 2019	KRQE News interview for recruiting for FIRST	1 hour	1 hour
June 1st, 2019	STEM Igniter Robotics Rev Up hosted by our team	4 hours	48 hours
June 22nd, 2019	Booth at the NM STEM Fiesta	5 hours	40 hours
July 11th, 2019	Outreach/fundraising at NMU Watch Party	5 hours	45 hours
August 9th, 2019	Booth at the Isotopes STEM night	4 hours	32 hours
August 29th - November 21st	FLL class taught by our team at the local homeschool group	20 hours	60 hours
August 30th, 2019	Meeting with Senator Candace Gould	2 hours	6 hours
September 4th, 2019	Meeting with Legislator Day Hochman Vigil	1 hour	2 hours
September 6th, 2019	Team bonding making cupcakes for the Kickoff	N/A	N/A
September 7th, 2019	Kickoff, where we taught new teams about workshop safety	2 hours	4 hours
September 13th - December 1st, 2019	Volunteer at explora to help Brain Hackers with TeenTech startup	19 hours	38 hours
September 24th, 2019	Meeting with Aviation Industry Leader, Jill Meyers	2 hours	4 hours

November 15th, 2019	Booth at CCA School STEM Event	2 hours	12 hours
November 21st, 2019	Presentation at First Baptist Church of Albuquerque	1 hour	3 hours
November 22nd, 2019	Booth at the New Mexico Discovery Festival	6 hours	18 hours
November 23rd, 2019	Presentation at Olive Tree Fellowship	1 hour	2 hours
December 22nd, 2019	Outreach/fundraising event outside of Albertsons	4 hours	36 hours
December 22nd, 2019	Team bonding Christmas Party	N/A	N/A
January 16th, 2020	Robot demonstration at First Baptist Church of Albuquerque	1 hour	2 hours
January 23rd - April 16th, 2020	FLL class taught by our team at the local homeschool group	20 hours	60 hours
February 6th, 2020	Meeting with Roch about real world engineering opportunity	1 hour	N/A
February 15th, 2020	Volunteer at NM FLL Championship	5 hours	19 hours

OUTREACH EVENTS

Enigma strives to grow the FIRST community in New Mexico, especially because we are such a small FIRST state. We are accomplishing this by reaching out to our community, hosting and participating in many outreach events designed to help spread awareness of STEM and FIRST in our community.

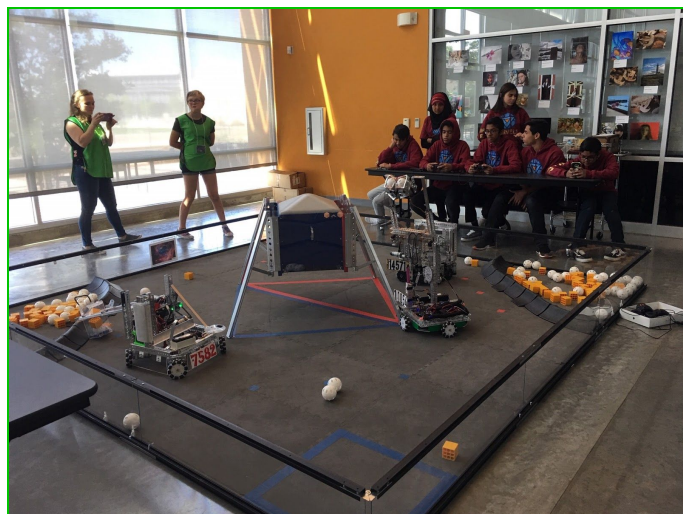
FTC Recruiting Presentation at Albuquerque Reformed Church

At our very first outreach event, as a 2-member team, we gave a pre-prepared presentation with slides and spoke to several students and their families. We discussed FIRST Tech Challenge and our team, with a goal of providing them with information and an understanding of the program. We also spoke to individual students and families before and after our presentation. Several students were interested in joining our team and we **recruited 3 new student members**.



FTC Recruiting Presentation at Nex-Gen Academy

At our second outreach, we coordinated an event with other FTC teams to recruit new team members and talked about FIRST and FTC. We also gave a pre-prepared presentation of an overview of FTC going into detail on things that are usually never talked about, such as typical competition schedules. We also broadcasted it on Instagram live for more people to see. **We recruited 2 new team members**.



Team FTC Booth at the Natural History Museum

We were invited to host a booth at the Natural History Museum along with several other teams as a part of FIRST day. We did not have a robot to display, but we did help out a local FRC team, Zia Robotics, to run their robot. **We showcased FIRST to hundreds of people.**



KRQE Interview

We had an interview on KRQE News This Morning on Fox where we discussed FIRST and FTC with FIRST FTC Affiliate Partner Jim Jackson. Specific topics discussed included New Mexico's new independence as a region from Arizona, how students and parents can become involved in FIRST, and how involvement in the program can greatly benefit students' futures. Through this interview we

introduced FIRST to thousands of viewers. Link:

<https://www.krqe.com/news/mornings/robotic-competition-inspires-kids-to-accel-in-science-skills/2016447721>



STEM Igniter Robotics REV Up at Nex-Gen Academy

At this outreach, we coordinated an event with other FTC teams to recruit new team members. We presented to many people about FIRST and invited other FTC teams to come with their robots. We contacted 3 families to discuss FIRST team participation. We also answered questions for elementary teachers who were interested in starting their own FLL team.



STEM Igniter FIRST Robotics RevUP
Saturday June 1st - 11am - 3pm
Students Grades 7-12 Ages 12-18
No Experience Required... WE LEARN TOGETHER.
LOCATION: Nex-Gen Academy
3323 Montgomery Blvd NE Albuquerque, NM 87109

FIRST TECH CHALLENGE
FIRST Robotics RevUP
for the new NM Region
This event will introduce students (grades 7-12, ages 12-18) and teachers/coaches/mentors to FIRST TECH CHALLENGE ROBOTICS and what it means to join a team and/or start a team, to compete in the **STAR WARS** themed 2019-2020 season in the newly formed New Mexico Region. (formerly AZNM)
The **FIRST TECH CHALLENGE ROBOTICS COMPETITION** inspires students to excel in skills related to science, technology, engineering and math teaching real world skills in those fields as well as, Gracious Professionalism, Cooperation, team work and alliance partnership.
It's the most fun you'll ever have working hard at something that could possibly turn into a career.
2 IS BETTER THAN 1, BE SURE AND INVITE SOMEONE!
Get up to speed in no time flat!

- Learn About the Robotics
- Meet / Join New Mexico Teams
- Learn About Starting a Team
- Learn About Volunteering
- Meet New People/ Make New Friends

DOOR PRIZES - DJ - SNACKS - REFRESHMENTS
Hosted by: Nex-Gen Academy · NM FTC · Applied Dynamics Initiative · ENCIMA 1025

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MORE INFO

NM STEM Fiesta at the NM State Fairgrounds

This year we participated in the New Mexico STEM Fiesta. We had a booth where we brought computers with coding games with which to teach children. Our team members assisted them, teaching them basic coding skills and strategies. These programming lessons were highly engaging to students and were a fun way to introduce them to FIRST and STEM concepts. Through this event we **introduced dozens of students to basic coding and FIRST.**



Isotopes STEM Night

The Isotopes baseball team hosted a STEM night at one of their games, and we were invited to host an FTC booth and help out two FLL and FRC booths. We helped all three booths set up and take down their displays. Ours included last year's playing field and a couple of robots that we showed to people who were interested. We also talked to many individuals about how they could get involved in the FIRST level appropriate for them and what that would include. It was highly successful in reaching people, and we **showcased FIRST to thousands of baseball fans.**



7 Week FLL Class -First Semester

In this semester long class, we reached 21 students and their families with FLL style robot building and coding, as well as **FIRST principles.** The students were split into two groups and each presented with a challenge. Each team then designed, assembled, and programmed their own Lego robots. Each team also formed a presentation about FLL core values that they had learned throughout the class. We will be teaching another class like this next semester!



Meeting with Senator Candace Gould

We met with Senator Candace Gould to introduce her to FIRST, our team, and our non profit. We specifically talked about funding for FIRST and STEM classes in local schools and community centers. We received very valuable information on how funding works in our State for community events and non-profits. Senator Candace Gould was very impressed with the work we were doing and our team, as she had never heard of FIRST before! We unfortunately forgot to ask for a picture with her.

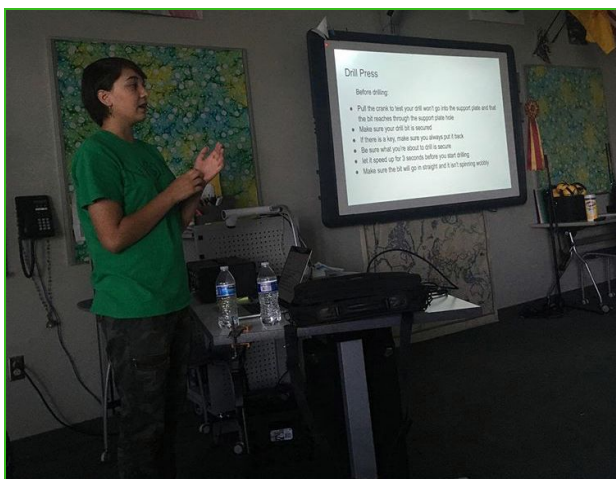
Meeting with Legislator Fay Hochman Vigil

We connected Brain Hackers with Legislator Day Hochman Vigil and met with them both to introduce her to FIRST and a bill that could potentially get funding for a TeenTech club startup in multiple NM public schools. We specifically discussed funding and potential contacts to get our efforts moving in the right direction. Candace Gould was very interested, and committed to helping both of our teams spread STEM and FIRST in New Mexico.



FTC Kickoff Safety Workshop

We had a lot of fun at the FTC Skystone kickoff as the new challenge was revealed! We believe learning from other teams is a very important part of FIRST, and since two of our members had extensive past experience in FTC building, and safety is a huge priority for our team, we **put together a 40 minute presentation and taught two safety workshops for people new to building and FTC** in general! There were many important topics covered, such as the importance of proper workshop attire (safety glasses, hair up, no baggy clothes), and the importance of knowing how to use a tool correctly and with great caution (especially with power tools).



Volunteer at explora to help team #11054 Brain Hackers with TeenTech Pilot Program

We were given a volunteer opportunity to **help FTC team 11054 Brain Hackers with a 3 hour, six week Teen Tech Center pilot**. The purpose of the pilot was to test an idea for a STEM community center for teens, where they could work on projects that interested them, such as building, designing, 3D printing, and much more, joined with creating an educational, collaborative, and fun environment. We helped them set up, take down, and guide the students through interesting projects each week. The Brain Hackers were recently able to introduce a bill to the New Mexico House of Representatives that would allocate extensive fundraising for multiple Teen Tech Centers in New Mexico public schools.



Booth at the Calvary Christian Academy STEM Night

Calvary Christian Academy, a local school held their new annual STEM night and invited our team to come talk to the families that attended about FIRST and our team. While the invitation was last minute and very close to a competition, we still came to help STEM grow in our community. We brought with us part of the playing field and demonstrated our robot's abilities as well as talked to students and parents about the program and our team. By doing this we **showcased our robot and the FIRST program to dozens of students and their families at the school.**



Presentation at First Baptist Church of Albuquerque

We were invited to **present our team and robot at a local homeschool group's last day of co-op. We shared information about our team, the FIRST program, the outcomes of our last few qualifiers, and our robot.** Most of the kids were in elementary school, so they were very excited and we could barely hold them back from touching the robot! We also held a question and answer period where the kids asked us questions like “how are you controlling it?” “how long did it take to build?” and “how many parts are on it?”.



Booth at the New Mexico Discovery Festival with team #10348 Gear Masters

At the New Mexico Discovery Festival, FIRST had an FLL, FTC, and FRC booth. Our team volunteered to run the FRC booth and help run the FTC booth along with FTC team Gear Masters. At this outreach event, we **introduced thousands of New Mexico students, both young and old, to FIRST and STEM in general.** The kids were able to test programs on the FLL robots and drive FTC robots on the Rover Ruckus field! Many teachers were very interested in starting a team, and all of the kids had a ton of fun driving the robots and learning about the program!



Presentation at Olive Tree Fellowship

We were invited to present the robot to the kids at a local church! We set up ¼ of the field and demonstrated the robot to all of the kids. They were so excited to see a real robot and asked a bunch of questions! We explained the challenge, how the robot worked, how we built it, and more! We were able to demonstrate the robot in action, stacking 5 stones high for them!



7 Week FLL Class -Second Semester

In this semester long class, the second one so far, we reached many students and their families with **FLL style robot building and coding, as well as FIRST principles**. The students were split into two groups and each presented with a challenge. Each team then designed, assembled, and programmed their own Lego robots. Each team also formed a presentation about FLL core values that they had learned throughout the class.



Robot Demonstration at First Baptist Church of Albuquerque

After so many kids enjoyed our first presentation at the the local homeschool group's co-op, we were invited to do a robot demonstration at their orientation. We set up the field and had all of the kids gather around our robot as we ran our skystone, place, move foundation autonomous and explained how it worked. We also had the kids ask questions about the robot and program. They all thought it was crazy that the robot was "moving on its own!". **We reached dozens of students in our community.**



Volunteering at the NM FLL Championship

In order to serve the younger generation and help out the NM FLL Region, our team volunteered at the NM FLL Championship. Gray and Isabel volunteered for half of the day as judge assistants because they had an FRC meeting, but George stayed all day as a score keeper! The team greatly enjoyed watching the teams work together and learning more about FLL. Below is a picture of George with some members from team #11054 Brain Hackers!



ENGINEERING CONNECTIONS

Recruiting Aerospace Engineer Lisa



Lisa is an aerospace engineer, and former math teacher who works optimizing trajectories for hypersonic vehicles at Sandia National Labs. She has a Masters' and Bachelors' degrees in Aerospace Engineering from Georgia Tech. She has helped the team immensely as a coach, helping us with the engineering notebook and judges presentation, as well as coordinating many team events and keeping the team on schedule! She has also helped us with mathematical calculations and drawing free body diagrams!

Recruiting Electrical Engineer James



James is the production director for Silent Falcon UAS Technologies, a drone company based in Albuquerque, New Mexico. He has been a great mentor to the team! He has helped us solve many mechanical and electrical issues! He has also helped the team with scouting, guiding the team through Alliance Selection!

Meeting with Aviation Industry Leader, Jill Meyers



We met with Jill Meyers, a woman very prominent in the Aviation Community, to discuss FIRST, our non-profit, and her own STEM outreach efforts. She gave us some very cool ideas for potential outreach opportunities and new connections to other people in the NM STEM community that could further our outreach efforts. We were also very impressed by her work as an Aerospace Engineer and her many outreach events that she had held throughout her time in the STEM community.



Meeting with Engineer from Leidos, Denise (forgot to take a picture)

We connected with an engineer named Denise, from Leidos, an American defense, aviation, and information technology company. She came to our shop and spent about an hour with us as we explained our team and robot and she talked about her job at Leidos; she also offered to help us with our engineering notebook. We have maintained an ongoing relationship with Denise, as we send her monthly emails updating her and the company on our team. She's even come to our competitions! Unfortunately, we forgot to take a picture.

ENGINEERING CONNECTION HIGHLIGHT

Invitation to work on Real World Engineering Project with Wildlife Protection Management

Our biggest engineering connection this season was the opportunity to work on an agricultural project with a real engineering company. They invited us to work on a robotic mechanism to control animal movement on their range. We set up a meeting with Roch, the owner of Wildlife Protection Management on February 6th. At this meeting we learned about the project. He explained to us how they use a robotic system to give their horses medicine. The horses go to their feeding hub, and they enter into a stall which gives them a vaccine



and RFID microchips! His problem was that the cows, which are on the same property as the horses, would often come and eat the horses food, so he wanted us to create a robotic mechanism to scare them away! He said they had already started on something that utilized a paintball gun; this automatic paintball gun was successful in scaring the cows away for a little bit, but the cows did not fully get the message, so he suggested for us to still use the paintball mechanism, but figure out a way for it to aim at the cows and actually hit them to scare them off. He also explained to us how the work they are doing is the first of its kind, and whatever we make could be utilized in more than one way on more than one project. We will be starting this exciting project as soon as the off season begins!



HELPING OTHER TEAMS

SOCIAL MEDIA OUTREACH

We have helped out 28 teams from all over the World over social media. We helped two teams program their mecanum drive over Instagram dms, emailed one team our fundraising and sponsorship plan and recommendations, and consulted the rest on linear slides, how to string cascading, and what motors to use.

HOSTING A SCRIMMAGE

We also hosted a scrimmage in order to help out a local team prepare for an upcoming tournament. We invited this team, along with two other local teams to our shop and played multiple matches! It was very helpful to the teams and even to us, as we were all able to see what needed work on our robot and got additional practise playing the game with three other robots on the field.



TEAM BONDING

Making cupcakes for the FTC Skystone kickoff

As we believe it is important for the team to do fun things outside of the regular meetings, we decided to make cupcakes for the Skystone kickoff the following morning! Although one batch came out with a little too much salt, they all turned out very well and tasty! We were happy our team could contribute homemade cupcakes to all of the teams at the kickoff!



Team Christmas Party

After our fundraising event selling Krispy Kreme donuts, we had a potluck Christmas party where we all ate, exchanged gifts, and played games! We all had a lot of fun and agreed we needed to do more team bonding!



FUNDRAISING EVENTS

Outreach/fundraising at NMU Watch Party

At our first fundraising event as a team, we sold krispy Kreme donuts and bottled water to people at the NMU Watch party. We were able to introduce hundreds of people to FIRST and our team. We ended up fundraising \$354.65 in cash and \$859.85 in total, including in-kind donations -4 banners, and 4 Krispy Kreme gift cards. We were not able to sell all of our donuts, so the rest were donated to the local homeless shelter.



Outreach/fundraising event outside of Albertsons

At our most recent fundraising event, we sold Krispy Kreme donuts, Krispy Kreme gift cards, bottled water, and little robot Christmas ornaments outside of the Albertsons right next to our shop. This also gave us the opportunity to talk to dozens of people about FIRST, our robot, and our team. Many of them were very interested and had never seen anything like it before! We ended up making \$200!

