Mikayla
Levy
Marlene

- Extent and inventiveness of the team's efforts to recruit students to engineering with particular emphasis on the most recent year's efforts. Measurable success of those efforts.
    - Open house
    - Elementary & middle school presentations
    - Lockheed martin presentation
- Extent and effectiveness of the team's community outreach efforts with particular emphasis on the most recent year's efforts. Measurable success of those efforts.
    - Steam summer camps
    - FLL & FRC
    - Cdr
    - Pack expo
    - Rockwell
- A commitment to science and technology education among the team, school, and community.
    - Senior option
    - New MET building
- Achievement of the *FIRST* mission and ability to communicate that at the competition and away from it.
    - Advocacy
- Efforts are ongoing, not strictly concentrated on the build and competition season.
    - Upcoming projects
    - Pre-season workshops

School

In School
- Robotics is the driving force for all these programs not the other way around
- Leading factor in the implementation of STEAM academies at our school
    - Pre-engineering, medical arts, information technology, environmental science
- Robotics elective for those that can't stay after school (starting year)
    - Curriculum based off the FIRST tech challenge
    - How many students are enrolled in this elective? 25 per year
    - What is the breakdown of the students? Are we spreading awareness to non-STEM students?
- Senior option program
- no engineering program to 1 to 2 to 3 and now this year 4

- medical arts 1 to 2
- it 1 to 2 in 2 years
- Robotics was apart of the reason why so many of the courses had to expand, there was a greater need for steam based programs and not enough space
- Introductory engineering after-school college-courses
  - Offered since 2017
  - CAD 101 - computer aided engineering graphics; introductory course that emphasizes the importance of and how to use CAD software
  - CIM 101 - machine shop practices; introductory course on how to use hand, machine, and computer numerically controlled tools.

After CCTS and FRC
- Many alumni pursuing engineering or steam careers
  - Cole Becker, NJIT Grad, works at Picatinny Arsenal as an engineer and also a mentor for FTC Team (17009: Steel Magnolias)
  - Jon Brownlow works as a middle school STEM teacher and WPI graduate
  - 10 recent graduates stepped right into the workforce out of high school into local manufacturing companies
- Two Team 203 graduates are completing their PhDs in engineering as well

Pre-Season Workshops
- Scouting, fabrication, programming, business, and social skills
- For our team and teams we mentor/assist
- How are these workshops coordinated? Through in-person workshops guided by mentors, team leaders, and alumni

Biannual School Open House
Impact:
- How many people stop by to look at the engineering program? About 150-200
- Do students from the open house join the team? Average about 25 students join as freshman every year
- typically 700-800 students attend

Elementary and Middle School Presentations
- What is the number of presentations we do each year? 10 presentations. How many schools do we present at (what is the percentage out of the schools in NJ)? 10 schools Does this number grow each year? Yes, 1-2 school increase per year
- Showing numbers will convey a stronger argument
  - FIRST loves knowing the team's measurable impact
- What is the significance of these presentations? Do we educate the students of robotics opportunities? Do we network with the school to start a team? What is the outcome of

these presentations? The outcome is encouraging students to pursue stem careers and choose our high school to go to.
- Manufacturing Engineering Technology Shop
  - Helps make room for students who wouldn't be able to get in other wise.

Community

STEAM Middle School Summer Camps
- Annual summer camps based on First Tech Challenge and First Lego League
- Started in 2014 to provide scholarships for underprivileged students
- About 100 participants annually; 7/10 will go on to pursue STEAM academies at out school
- last summer: 2 to 3 level, expanded to pennsauken campus

Girl Scouts
- 2017 - 2020
- Regular workshops for girl scouts slighted with their steam program
- Our members develop lesson plans and teach the Scouts how to code, problem solve, apply skills to real-world problems, build robots, and earn badges
- Each level of girl scouts had an option of three badges

New Jersey School Board Annual Conference
- Represented FIRST since 2015 and continues to be a major key event each year at the conference
- Met with school board members and administrators about the benefits of FIRST
- Engaged 3000+ leaders
- Mention the impact from this event: how many board members reached out to start a team?
- Used robotics to promote interest in STEAM fields and careers through demonstrations

Lockheed Martin
- Engineers Week Presentation
  - Annual since 2017: Our team continues to be a part of Lockheed Martin's Engineers Week Presentation as of this year, it is our 5th year.
  - Inspiring 100+ students to take part in STEAM and FIRST activities
- Critical Design Review every season
  - Impact: How has this helped students? It provided insight for students to learn about design reviews and an opportunity for growth.
    - Unfortunately, the three of us have only been able to present over zoom which isn't nearly as scary as in front of a live audience with a microphone.

- For those that were able to attend the CDR and present in person, it was an opportunity to practice public speaking in front of an audience that they do not know with a microphone. It allows them to grow confident in their abilities to present to a live audience.
- This was also a perfect opportunity for our past captains, DeAisha, to practice as well.
- It's always good to mention your own experiences or other team members.

FRC

- Started Egg Harbor Enforces & Penn Tech Tornadoes and continue to mentor and assist them
- Continue to mentor and assist Haddon Heights Bytes
  - Allow them to use our practice field
  - Heights Bytes also qualified for Lehigh
  - Quote from Mia: "A sincere thank you to team #203 SOUPer BOTs for their generosity and guidance to team 7110 - Heights Bytes. Without your practice field, we would not have done nearly as well as we did."
- For each of these teams, what kind of support do we provide? List them: financial support? Just materials and supplies? At a regional level, they care about these fine details.
- Mention when we start to help these teams and how we are going to continue helping them. What are our goals for these teams?

FLL

- Started in 2019 and we continue to sponsor and establish more teams in the future.
- Started an initiative to start 7 FLL teams in our county
- Inspire local middle schoolers to learn more about STEAM principles and FIRST
- Hosting FLL scrimmage June 11, 2022
- How did we start this initiative? How are we continuing this (is it sustainable)? Who mentors the teams and what is our support (mentorship/financial/materials/etc.)?
- What is the impact? Do the students in FLL end up joining a robotics team or program?

Rockwell Automation Fair

- First started in 2018 and the team continues to attend as one of the [add number] highschool level robotics program representation for the fair
- Represented FIRST
- Discussed the impact of FIRST and how it encourages career goals and education

- Provide the impact/reach: how many people attend this event and how did we impact their lives? Annually [number of attendees] attend this fair and our team

Pack EXPO
- First invited in 2018 and were reinvited again for the second time this year.
- Represented FIRST
- Talk about the benefits of being a part of FIRST and its overall importance
- Convince people to start their own FIRST teams or sponsor a team
  - Impact: Multiple companies reached out to partner with us for shipping, packaging, and manufacturing purposes.
  - our members were able to talk to people

PPE for Local First Responders
- Start of the pandemic
- Donated 3D printed 375 face shields and 1000 face mask clips for the Camden County Office of Emergency Management

Beyond

First National Advocacy Conference
- 2019
- Talked to members of Congress about the importance of FIRST
- Supported the Christa McAuliffe coin bill
- Doing so again June 2022
- 1 out of 2 teams from MAR. Provide information that will make us stand out.

Advocating at the NJ State House
- I think you should mention how the team was invited to lobby at the State House with other MAR teams in 2018. This shows progression and consistency with our team, that we're constantly looking for ways to improve and establish sustainable STEM opportunities in our State. Our team took this opportunity back in 2018, and look how far we came: we helped sign a bill!
- Our team met with general assembly members, state senators, and staff members about establishing FIRST as a career and technical student organization
  - Integral to career and technical education programs overall
- Advocate for NJ Assembly Bill #2455 alongside other 2 first teams as the south jersey representative
  - Bill establishes pilot programs through the New Jersey department of education to expand robotics in schools
  - 12 robotics teams at 12 different schools
  - got two assembly members to cô sponsor and introduce the legislation

- Our recent alumni testified in favor of the bill in front of the NJ assembly science, innovation, and technology committee
- Signed into law by Governor Phil Murphy Dec. 2021

upcoming projects
- soup can drive
- partnership with jedi club & trio club at ccc
- more girl based programs (women in stem/girls who code)

Other Teams

Nemesis 2590 - Week 2 Mount Olive
- Legislative bill A2455
- International affairs in Nigeria
- FTC, FLL teams
- Engineering day
- City Expo
- Watch this: https://www.youtube.com/watch?v=odl7qJ-L2MY

Pascack Pi-oneers 1676 - Week 1 Bridgewater
- Outreach in Nigeria, South Africa, and Ireland
- STEAM camps
- STEAM fair
- Lego & movie/lego & story nights
- Rookie bookie (?)
- STEM night out
- Lily the Learner (published book about a girl learning about women in stem)
- Library STEAM programs
- Ready, set, speak (helps kids on the autism spectrum learn to speak)
- Sponsor appreciation night
- Established & mentored 3 FRC teams
- Mentors FLL teams
- Advocacy for NJ mentor based STEAM programs
- First national advocacy conference
- Pi-partners: provides an opportunity to donate money & materials to underfunded/developing teams

Cyber Crusaders 272 - Week 1 Hatboro
- Multiple programs for flags in their camp (?)
- One FTC and FLL team
- Motto: "We'll find a way or make one"

Firebirds 433 - Week 2 Springside Chestnut
http://1965firebirds.org/home/
- Girl scouts
- Summer camps
- Camp innovate (paid)

Fightin' Robotics Owls - Week 5 Bensalem

RoboRaiders 75 - Week 5 Montgomery
https://www.roboraiders.com
- IBM partnership
- W.I.S.E.