

Implementing a FIRST Feeders Program

FRC Team 226 Hammerheads, Troy, MI

FIRST Championship - Detroit, 4/26/2019

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www.hammerhead226.org



Agenda

- FIRST In Michigan Progression of Programs
- Troy Youth Robotics (TYR)
- Town Hall Meetings
- Resources Provided by TYR
- Growth and Sustainability
- Pearls



About the Hammerheads

- 20th Year competing in FRC
- Students from both Troy High and Athens High School in Troy, Michigan
- 100+ students
- 2019 Michigan State Championship Chairman's Winner
- 2017, 2018, 2019 Michigan District Chairman's Winner
- 2018, 2019 Michigan District Engineering Inspiration Winner
- Host a competition for all 4 levels of FIRST
- Participate in numerous outreach events in our community



FIRST in Michigan Progression of Programs

**FIRST
LEGO
LEAGUE JR.**

Ages 6-10 (Grades K-4)

**FIRST
LEGO
LEAGUE**

Ages 9-16 (Grades 4-8)*

*Ages vary by country

**FIRST
TECH
CHALLENGE**

Ages 12-18 (Grades 7-12)

**FIRST
ROBOTICS
COMPETITION**

Ages 14-18 (Grades 9-12)

**FIRST
Progression**

K - Grade 3

**FIRST
LEGO
LEAGUE JR.**

Upper Elementary

**FIRST
LEGO
LEAGUE**

Middle School

**FIRST
TECH
CHALLENGE**

High School

**FIRST
ROBOTICS
COMPETITION**

**FIRST In Michigan
Progression**



Troy Youth Robotics



TYR Overview

- Formed in August 2017 to promote and coordinate FIRST robotics program in the city of Troy
- Troy School District
 - *12 Elementary Schools*
 - *4 Middle Schools*
 - *3 High Schools (2 FRC Teams)*



Why TYR Started

- Many inquiries from parents in the community
- Most commonly asked question:
 - *“How do I join a robotics team?”*
- High interest in robotics
- Insufficient number of teams



Key Issues

- Lack of comprehensive robotics team listing within the City of Troy; difficult team networking and coordination
- Unable to join teams due to lack of information
- Lack of team persistence at some schools
 - » *Unable to transfer grant funded team kits to next year's teams*
 - » *Adverse impact on State Grant for rookie teams*
- Assistance with resource sharing
 - » *FTC full field*
 - » *Student technical and business mentors*



Initial Goals

- Enhance robotics program coordination within the city of Troy as coordinated progression allows for more experienced students at the next level of robotics challenge
- Promote STEM through robotics progression programs

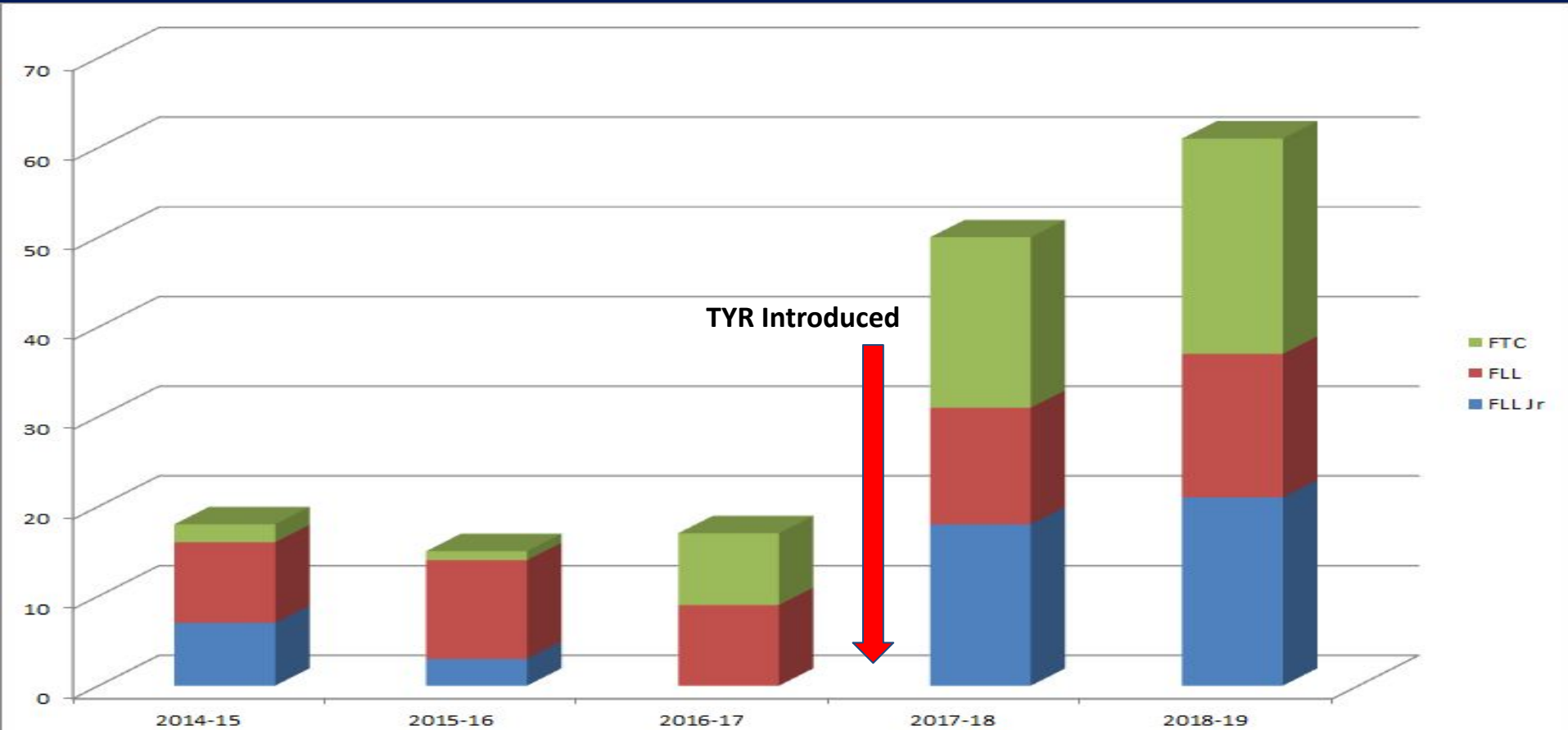


TYR Results in 18 Months

- Increased K-8 FIRST Teams from 17 to 61
- K-8 FIRST Teams in 2018-19 Season
 - » *21 Jr. FLL , 16 FLL , 24 FTC teams*
- FTC middle school teams increased from 8 to 24
- 6 FTC teams advanced to Michigan State Championship in 2018
- 30+ student mentors for FTC
- 20+ student mentors for FLL



TYR Growth



Town Hall Meetings



Robotics Town Hall
Thursday, July 26, 2018
6:30 to 8:30 pm
at Athens High School TACC
(Troy Athens Conference Center)

Parents and students attending Troy School District K-8 are welcome to attend and learn how to join existing teams or create new teams. This event is hosted by Troy and Athens High School Robotics Team, FRC 226, Hammerheads.

Business • Engineering

Fun • Competition • Outreach • Friendship • Teamwork

Find your passion

www.hammerhead226.org



Town Hall Meeting

- Initial meeting in July with at least one follow up town hall
- School district email / flyer distribution to parents
- Publicize event on social media
- Ask existing FLL and FTC teams to showcase their robots





Informational Town Hall Schedule

- 6:30 - 7:30 - Presentations on FIRST progression of programs
- 7:30-8:00 - Walk around and talk with existing teams
- 8:00 - 8:30 - Presentation about how to get started, sign up for further information



Town Hall Key Tasks

- Provide a summary of FIRST's progression of programs
- Gather contact information
 - » *We directed attendees to fill out a web form*
 - Hammerhead226.org > Contact Us
 - » *Forms were created by using SmartSheet.com*
 - » *Contacts are managed in Excel and SmartSheet*
- Establish a follow up meeting to decide new team formation and assignment



FIRST in Michigan - Program Summary

Web Resources

- FIRST in Michigan - www.firstinmichigan.org
- FIRST - www.firstinspires.org

	FIRST in Michigan's Progression of Programs (all costs are approximate and are subject to change)			
	FLL Jr.	FLL	FTC	FRC
Grades	Early Elementary K-3	Late Elementary 4-5	Middle School 6-8	High School 9-12
Team size max (ideal)	2 - 6	10 (5-6)	15 (6-10)	Any
Cost - registration	\$ 99	\$ 225	\$ 275	\$\$\$\$
Cost - robot kit	\$ 250	\$ 545 (FLL Challenge Set - \$ 45; EV3 kit - \$ 470)	\$ 1000	\$\$\$
Cost - competition events	\$ 25	\$ 75 - One qualifier in Nov/Dec	\$ 100/ea - One qualifier	\$\$
Robot	LEGO kit and We-DO kit	LEGO Mindstorm EV3	18"x18"x18" TETRIX Kit with Smartphone Android controller, Java	Custom fabrication 120 lb. limit
MI Teams	563	525	434	508
Kickoff	Early August	Late August	September 9, 2017	January
Season	Fluid; 6 - 8 wks (Aug-Apr)	Through December	End of December	End of April
MI State Championship		December	December	April
World Championship		April	April	April

[Hammerhead226.org](https://www.hammerhead226.org) >> Contact Us

(Hammerhead 226)

• If you will be attending a high school in the Fall, please use this form to provide us with your contact information:

<https://app.smartsheet.com/b/form/82a13fe9b405469d83d4479ee69d1cda>

Students (K-8) interested in joining a middle school or elementary school robotics team

• Parents and others interested in having your child/student (from grades K through 8th) join an existing team or create a new team, please use this link here:

<https://app.smartsheet.com/b/form/26c29c7e940348b59e7477165a03f9f7>

Robotics team coaches or mentors in the City of Troy

• If you are an existing robotics team coach, mentor, or coordinator in the city of Troy, please listing your team with us (Troy Youth Robotics) here:

<https://app.smartsheet.com/b/form/6b5d179c885f4f698a5bc3267263b428>

Townhall Follow Ups

- Meeting with all coaches that have space and interested parents
- Organize room by school
- Connects people with who they can form teams with
- Answer any questions or concerns
 - » *General q&a session*
 - » *Veteran coach panel*



Team Ownership

- TYR currently does not own or manage these FTC, FLL, or Jr. FLL teams
- TYR connects students, parents, and coaches
- TYR promotes new team formation by parents
- One of our four middle school program does manage 7 persistent FTC teams, while the other 3 schools do not



Resources Provided by TYR



Resources Provided by TYR

- Communication via email groups and Slack instant messaging
- FTC & FLL student mentorship
- FTC kickoff session & programming seminar
- FTC full-field & weekly practice sessions
- FTC summer camp (future)
- FLL 5-day summer camp
- Event hosting
 - » *SharkFest - FLL qualifier and Jr. FLL expo*
 - » *FINale - FTC qualifier*
 - » *MAYhem - FTC off-season competition*



TYR Communication

- GoogleGroups - groups.google.com for group email distribution
 - » *Contact data are managed in SmartSheet and Excel*
- Slack.com - for instant messaging



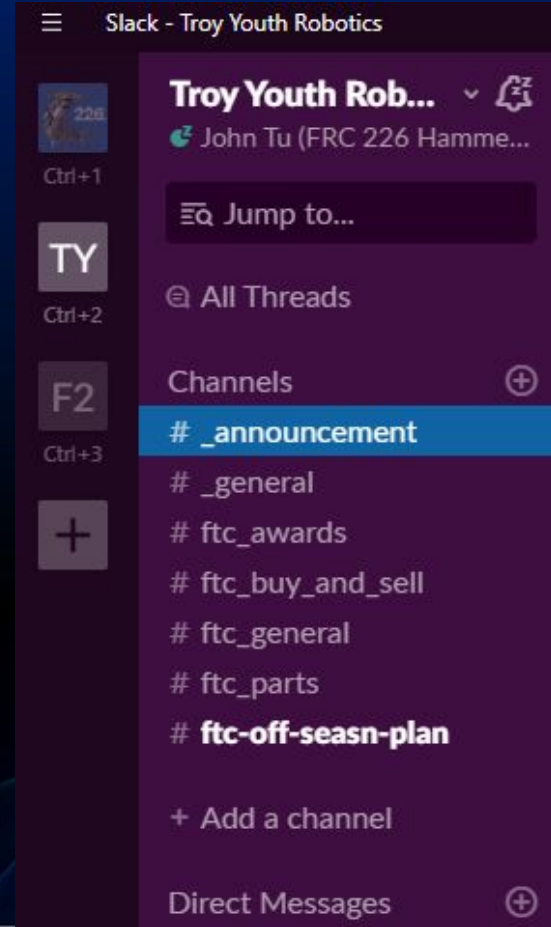
Communication - Email

- Create an email group with all interested community members
- Send updates and flyers
 - *Event reminders*
 - *Outreach opportunities*
- Share accomplishments of member teams



Communication - Slack Instant Messaging

- Instant messaging app for communication between coaches and mentors
- Create different channels pertaining to matter at hand
- Share resources and knowledge



Student Mentorship

- 30+ student mentors for 24 FTC teams
- 20+ student mentors for 16 FLL teams
- Some teams do not want mentors
- Student mentor quality varies
- Plan to formalize our student mentorship program to ensure consistent high standard of quality



FTC Kickoff and Help Seminars

- Hosting a FTC kickoff is fun for participating teams as they watch the kick off video together and share design ideas
- FTC seminars currently include
 - » *Programming*
 - » *Design*
- We plan to add sessions to assist coaches and mentors in team management and awards



FTC Practice Sessions

- Every Saturday at Troy High School
- Student mentors available to assist
- 3 to 4 weekly practice sessions towards the end of season



FTC Summer Camp (Future)

- Working to host FTC Summer Camp
- July - August
- Purpose
 - » *Prepares students for FTC season*
 - » *Increase FTC team readiness*
 - » *Allows student mentors to practice helping in a no-stakes environment*



FLL Summer Camp

- July - August
- Prepare Students for FLL Season
- 5 days
- Group by school to facilitate team creation
- EV3 Instruction followed by mini FLL style competition



Robotics FLL SUMMER CAMP

August 6 – 10, 2018

6:30 to 8:30 pm

Troy Athens High School Cafeteria

Who: 4th and 5th graders

What: build and program a *First
LEGO League* (FLL) robot.

Cost: \$80 per student

Sign Up: www.hammerhead226.org

This event is hosted by Troy and
Athens High School Robotics Team,
FRC 226, Hammerheads.



Team **226**
Hammerheads



Basic 5-day Plan For Summer Camp

Monday (2 hours)

1. Introduce EV3 kits to students
2. Have groups of 4-5 kids build a basic kit bot from instructions

Tuesday (2 hours)

1. Start to teach them basic mindstorms programmings
2. Have them use the basic kit bots they have built the day before to program principle very basic actions

Wednesday (2 hours)

1. Take apart kit bots
2. Introduce simple robot challenge/competition on FLL mats
3. Students start brainstorming ideas
4. Start building robot

Thursday (2 hours)

1. Work day: continue building and programing robot with the help of 226 students

Friday (2 hours)

1. Work day: continue building and programing robot with the help of 226 students

Competition for Students and Parents After Friday Session (1 hour competition)

1. Have mini competition between the 4-5 teams with the parents as audience members



Growth and Sustainability

- Team Management
 - » *Establish a coordinator at each school to manage persistent teams and coach recruitment*
- Consider establishing a 501(c)3 non-for-profit organization
 - » *Eases fundraising and sponsorship money management*
- Workspace Management
 - » *Can be limiting if using school space*
 - » *Consider renting / leasing / donation of space*



Pearls

- FLL teams do not need weekly drop-in practice sessions
- FTC teams needs a shared full-field setup and frequent practice sessions
- Establish a training program for FTC / FLL student mentors to ensure mentorship quality
- Create a good database (Excel, or other tools) of contact information to facilitate communication to teams and parents



Field of Dreams - Kevin Costner

A wide-angle photograph of a lush green cornfield stretching to the horizon. The sun is low on the horizon, creating a warm, golden glow and long, soft shadows. The sky is a deep blue with wispy white clouds. The text is centered over the image.

If you build it,
(he) they will come

Sponsors



Beaumont



Troy HS PTO



Resources

- FRC 2834 Bionic Black Hawks, Bloomfield Hills, MI
 - » *Partnering with your School District*
 - 2017 Championship Presentation
 - http://www.team2834.com/uploads/9/6/7/4/96748426/2017_world_robotics_presentation_2834webversion.pdf
 - » *FIRST Outreach: How to Expand FIRST in Your Community and Beyond*
 - 2019 Michigan State Championship Presentation
 - <http://www.team2834.com/2019-fim-outreach-seminar.html>
- FRC 503 Frog Force, Novi, MI
 - » *Host a Townhall Meeting - <http://frogforce503.org/page-townhall.html>*
- FRC 226 Hammerheads, Troy, MI
 - » *Implementing a FIRST Feeders Program*
 - Hammerhead226.org >> Resources




Check Us Out Online

- Website
- Social Media
 - » *Facebook*
 - » *Instagram*
 - » *Twitter*
 - » *YouTube*




www.hammerhead226.org

 FIRST FRC Team 226- The Hammerheads

 @frc226

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 FRC Team 226, Hammerheads, Troy, Michigan

