

FIRST Tech Challenge (FTC) Canton Kickoff – 2024-25

Infinity Tech
FTC Team 13684



Lightning Robotics
FRC Team 862



**Event
Agenda**



***FIRST* Tech Challenge (FTC) Season Overview**

What to Expect: Startup, Build, Competition and Post Season

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Lead Mentor, Business Operations

Lightning Robotics, FRC862



FIRST Tech Challenge (FTC) Season Overview

What to Expect: Startup, Build, Competition and Post Season



	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Registration Opens												
Pre-Season												
Kickoff												
Build and Practice Season *												
Qualifying Season *												
State/Regional Championships *												
World Championship												

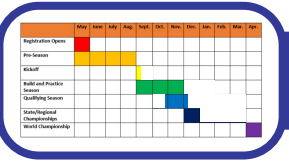
* These three sections of the schedule are shown here for teams in Michigan. They are different elsewhere.



	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Registration Opens												
Pre-Season												
Kickoff												
Build and Practice Season												
Qualifying Events												
Technical Skills												
Championships												

Registration

- **Two** official, adult leaders
 - Are official points-of-contact with *FIRST*
 - Manage team registration, signups for events, team roster, permission forms, etc.
 - Are the overall team leadership, but need to be supported by adults from entire team



	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Registration Opens												
Pre-Season												
Kickoff												
Build and Practice Season												
Qualifying Events												
Team Regional Championships												
World Championship												

Registration

- **School-based** or **community-based**?
 - No difference in eyes of *FIRST* or other teams
 - No difference in competition rules or eligibility
 - Main differences:
 - School-based teams adhere to rules agreed upon with school (meeting spaces, finances, etc.)
 - Some grants are available only to school-based teams

	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Registration Open	Red	Red										
Pre-Season	Yellow	Yellow	Yellow									
Kickoff				Green								
Build and Practice Season				Green	Green	Green						
Competition Season							Blue	Blue	Blue			
Technical Support										Black		
World Championship												Purple

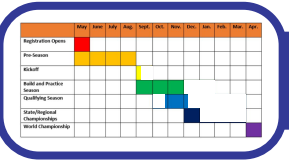
Registration

- **FIRST** and **FIRST in Michigan (FiM)** grants for rookie or returning teams
 - **Rookie** grants generally cover cost of registration and initial kit of parts (electrical components and structural elements)
 - Check all details of grants **before** completing your registration with **FIRST**. Some grants can only be applied prior to “checkout”

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Technical Support												
Championships												
World Championship												

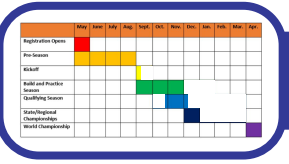
Pre-Season

- Outreach
 - Guests visit your team, you visit relevant people and places
 - Can be virtual if in-person is not practical
 - Engineering/STEAM: How STEAM is used in “the real world”
 - Robotics: Robots and other types of automation
 - Community/Public service: Anything that helps others
- Training and Team-building



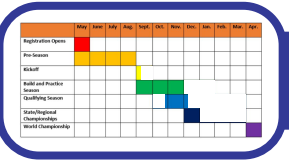
Robot

- **Strategy** Which points to score (and how fast)
- **Design** What capabilities are needed?
- **Prototype** How can those capabilities be built?
- **Build** Robust, serviceable
- **Test** Definition of “it works”, repeatable successes
- **Repeat** It's never perfect on the first try



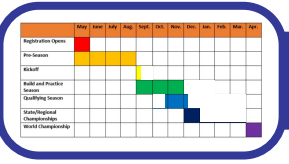
Programming

- **Strategy** How will you manage decisions and code?
- **Core Skills** Logic, variables, if-then-else, loops, methods
- **Specifics** Commands, arguments, feedback
- **Structure** Plan the where, what, and why of your code
- **Reusable** Write it once, use it again and again
- **Refine** Simple is better, comments are a must!



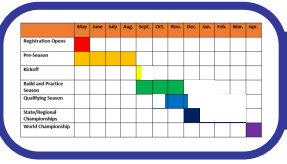
Business

- **Strategy** Your overall plan for the season
- **Portfolio** Document your season
- **Outreach** Visits, tours, presentations & demos, service
- **Finance** All team incomes and expenses
- **Presentation** Describe your team and season to the judges
- **Art** Logo, uniforms, presentations, pit display, etc.



Competition Day

- **Sign-in** Can be day before in most cases
- **Pit Setup** Plain or decorated
- **Inspections** Rule compliance and function
- **Presentation** Your presentation plus Q&A, all students
- **Welcome** Opening statements and event agenda
- **Qualification** Beginning of qualification matches



Competition Day

- **Lunch** At event venue, no time to go out
- **Qualification** Remainder of qualification matches
- **Rankings** Based on match performance
- **Selection** Top 4 select Alliance Partners for Elim. matches
- **Elimination** Semi-finals and Finals
- **Awards** Match rankings and judged awards

State Championship

- December
- Warren (7-8)
- Muskegon (13-14)

World Championship

- April 16-19
- Houston, TX

Post-Season

- Reflection
- Self-challenged
- Spring season?
- Off-season
- Outreach
- Recruiting
- Training
- Testing
- Prototyping
- Team-building



Rules & Resources

- Game/Season
- Manual 1 & 2
- GM Zero
- Orange Alliance
- FIRST in Michigan

Financial

- Dues?
- Fundraisers?
- Grants?
- Sponsors?
- Banking?

Robot

- Which kits?
- KoP vs. COTS?
- Tools?
- Practice field?
- Storage?
- Helpers?

Drive Team

- Goals?
- Roles?
- Number of kids?
- How choose?

Programming

- Languages?
- Computers?
- Helpers?

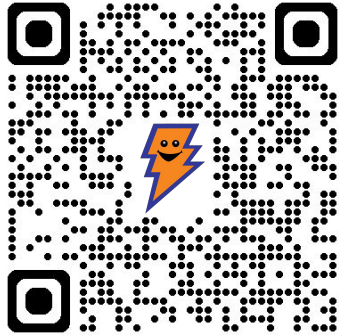
Presentations

- How long?
- What is asked?
- Types?

Outreach

- What counts?
- Where?

Event Map



PDF of this Presentation

Room 145

Workshop Room 2

1. Intro to Programming
2. Intermediate Programming



Cafeteria

Gathering Area

- Discussions
- Lunch

YOU
ARE
HERE

Theater

- FTC Season Overview
- *FIRST* HQ Broadcast



Room 134

Workshop Room 1

1. Machine Vision for Autonomous Mode
2. Business Team 101

SIGN
IN

Room CV-13

Workshop Room 3

1. Get Started Designing with CAD
2. 3D Printing for FTC - Tips and Tricks

Event Agenda

