



# FRC/FTC 2018 Kickoff Meeting

Presented by Rick Blight

September 25/26, 2018

# BLUF

- **We are the equivalent of a traveling sports program.**
- **This sport is expensive and our team members and coaches take it seriously.**
- **Think of our meetings like practices for any other sport.**
- **An unbelievable amount of time and energy is spent making our team successful.**
- **All adults in the AIR organization are giving up their most valuable asset – time – to provide this experience. Please show them the utmost respect.**
- **We are not in this just for ourselves; we impact the community by helping other teams and performing charitable acts**

# High Level Timeline

- **September 2018**
  - FTC Kickoff
  - Fall Meetings Begin
- **October 2018**
  - FRC Offseason Competition
- **January 2019**
  - FRC Kickoff
  - FTC Qualifier
- **February 2019**
  - FTC State Championship
- **March 2019**
  - FRC Qualifiers
- **April 2019**
  - FRC New England Championship
  - FIRST World Championship

# What is AIR?



AQUIDNECK  
ISLAND  
ROBOTICS

- **Aquidneck Island Robotics (AIR) is a 501(c)(3) non-profit based in Newport, RI.**
  - Originally formed as a 4-H Club founded in 2008.
  - Non-profit incorporated in 2014.
- **AIR provides robotics programs to K-12 students from any school (public, private, home).**
- **2018-2019 Breakdown**
  - 10 Teams (1 FRC, 1 FTC, 5 FLL, 3 FLL JR)
  - ~90 K-12 Students
- **All board members, mentors and coaches are unpaid volunteers.**

# What is FIRST?

**FIRST: For Inspiration  
and Recognition of  
Science and  
Technology**



- *FIRST* was founded in 1989 by Dean Kamen to inspire young people's interest and participation in science and technology.
- Based in Manchester, NH.

# 2019 FIRST Games:

FRC



Presented By  **BOEING**

FTC



Presented By **Qualcomm**

# FIRST Robotics Competition

## Team Background



- **Team Name: AIR STRIKE**
- **Team Number: 78**
  - Teams are assigned permanent numbers from FIRST.
  - The higher the number the less time in FRC.
  - Rookie teams starting at ~7400 in 2019.
  - 3658 teams in 2018 – Expect >4000 teams in 2019
- **Rookie Season: 1996**
- **FRC 78 has won the Chairman's Award 6 times.**
- **Highest Finish: T-5<sup>th</sup> Place in Worlds (2012)**

# FRC 78 Award History

(Since 2010)

- 3x Entrepreneurship
- 1x Safety
- 3x Gracious Professionalism
- 2x Industrial Design
- 2x Quality
- 3x Dean's List
- 3x VOTY RIDE
- 5x District Finalist
- 2x Regional Finalist
- 1x Champ. Div. Finalists
- 3x Engineering Inspiration

## Blue Banners - 9

- 2 District Competition Champions
- 1 Regional Champion
- 3 District Chairman's Award
- 3 Regional Chairman's Award



# How Does FRC Work?

- Robot up to 5' tall and 120+ lbs.
- ~220 Teams in New England District
- ~4000 Teams Worldwide
- Game is released in early January
- Teams initially have 6.5 weeks to build their entry.
  - Robot access window prior to district competitions
  - Upgrades/repairs allowed at competition
- Game is usually 3 vs. 3 on carpeted field the size of volleyball court.
  - At each competition, random qualifying rounds followed by alliance selection and elimination tournament
- Teams can advance to the next level of competition on robot performance and/or awards.
- 3 Levels of competition:
  - New England District Qualifiers
  - New England District Championship
  - FIRST World Championship

# FRC Build Season

- **FRC Game Reveal/Kickoff**  
**Saturday January 5<sup>th</sup> with teams 5112 & 5846**
- **Week 1:** Analyze game, choose drivetrain, prototype manipulators, build field.
- **Week 2:** Assemble drivetrain, continue manipulator prototypes, begin detailed design.
- **Week 3:** Complete design, manufacture parts.
- **Week 4:** Assemble, build bumpers and shields.
- **Week 5:** Finish assembly, program and Test.
- **Week 6:** Practice, pack pits, scouting prep.
- **End of Week 6: Week 0 Event**
- **Robot Bag and Tag on Tuesday February 19<sup>th</sup>.**

# FRC Season Goals

## Performance Goal:

- Attend the World Championship and either be an alliance captain or make it to Division Semifinals
- Top 3% in the world

## Award Goal:

- Win a DCMP Chairman's Award.
  - Top Award in New England

# FIRST Tech Challenge

## Team Background

- **Team Name: Rhode Rage**
- **Team Number: 121**
- **Rookie Year: 2007**
- **FTC 121 is AIR's original robotics team.**
  - **Started with 5 students and 2 mentors**
- **The team has won the Inspire Award at the Rhode Island Championship 5 times.**
- **Highest Finish: T-3<sup>rd</sup> Place at Worlds (2009)**



# How Does FTC Work?

- Robot starts in 18" cube with no weight limit
- ~40 Teams in Rhode Island
- ~3200 Teams Worldwide
- Game is released in early September
- Teams initially have until their first qualifier to build their robot and put together an engineering notebook.
- Game is usually 2 vs. 2 on 12'x12' field.
  - 2' square foam tiles.
- Teams can advance to the World Championship on robot performance or awards.
- 3 Levels of competition:
  - Rhode Island State Qualifier
  - Rhode Island State Championship
  - FIRST World Championship

# FTC Build Season

- **FTC Game Reveal/Kickoff**  
**Saturday September 8<sup>th</sup>**
- **September:** Analyze game, choose drivetrain, prototype manipulators, build field.
- **October:** Assemble drivetrain, continue manipulator prototypes, begin detailed design.
- **November:** Complete design, manufacture parts begin assembly
- **December:** Finish assembly, program and Test.
- **January:** Practice, pack pits, scouting prep.

# FTC Season Goals

## **Performance Goal:**

- Attend the RI State Championship and play in the elimination rounds.

## **Award Goal:**

- Win a RI State Championship Inspire Award
  - Top Award in RI

# High School Program Metrics

- **40 Students**
  - **13 Rookies**
  - **27 Veterans**
  - **27 Young Men**
  - **13 Young Women**
  - **17 Schools!**
- **2 or more years in FRC/FTC: 13 students**
- **Breakdown By Grade**
  - **8<sup>th</sup>: 5**
  - **9<sup>th</sup>: 7**
  - **10<sup>th</sup>: 10**
  - **11<sup>th</sup>: 6**
  - **12<sup>th</sup>: 12**
- **Bishop Connolly**
- **East Greenwich High**
- **Home School x3**
- **Gaudet Middle**
- **Middletown High**
- **North Kingstown High**
- **Portsmouth Middle**
- **Portsmouth High**
- **Rocky Hill**
- **Rogers High**
- **South Kingstown High**
- **St. George's**
- **St. Mary Academy – Bay View**
- **Thompson Middle**
- **Tiverton Middle**
- **Tiverton High**
- **Wheeler School**



# Lead Mentors

- **Rick Blight (2001)**
  - High School Program Coordinator
- **Mike DeSousa (2004)**
  - High School Program Co-Coordinator
- **Joe Menassa (2001)**
  - Resources Coordinator
- **Tom Dolan (2002)**
  - Lead Mechanical Mentor
- **Kim Lesieur (2011)**
  - Lead Scouting/Awards Mentor
- **Tim Sieben (2010)**
  - Lead Control Systems Mentor

# Educational Partner

- **Naval Undersea Warfare Center Division Newport (NUWC)**
  - **Workspace/Tools**
  - **Scientists/Engineers**
  - **Funds for purchasing tools & parts**
  - **Support of approximately \$60k per year for all AIR programs**
  - **Partnering with AIR since 2009**
  - **AIR is not possible in it's current form without NUWC Partnership**



# Money Matters

- **AIR has a \$58k annual budget**
  - \$40k for FRC/FTC
  - Remaining is for FLL/FLLJR and Overhead Costs
- **Students are expected to participate in fundraisers**
  - Examples: Calendar Raffle, Bowling Event
- **AIR does not fund travel of any kind**
  - Travel to robot competitions is optional and paid by each family
  - Besides being illegal, funding travel would counter our sustainment goals
- **Potential corporate donations/sponsors contact Heather Lynch – [hlynch@aquidneckislandrobotics.org](mailto:hlynch@aquidneckislandrobotics.org)**

# 2018 Shirt Back

- Shows our top sponsors from last season.
- Sponsor portion of shirt is the same for all teams in AIR.



# General Building 80 Rules

- **Safety glasses at all times during meetings.**
- **No food or beverage besides capped water allowed in workshop.**
- **Cell phones in cubby at the start of meetings.**
- **Use cell phones, if you must, away from others on carpeted areas.**
- **Long hair tied back.**
- **No loose clothing.**
- **Closed toed shoes required. No sandals, crocs, high heels, etc.**
- **Be aware of sprinkler heads.**
- **Security cameras everywhere and NUWC security is stationed in the building.**

# Expectations for All

- **Safety**
  - Safety is the top priority for all members while at a meeting or competition.
  - Goal is 100% injury free season.
- **Respect**
  - To other students, to adults, to tools and equipment
- **Professional**
  - No time for whining, complaining, excessive socializing.
    - This can cost us huge in the long run.
  - Bad news does not age well.
- **Ask**
  - If you don't know something – ask!
- **Goals**
  - Set small goals each meeting with our big goals in mind.

# Student Expectations

- **Mentors will treat students as mature young adults until we have a reason not to.**
- **Students can be asked to leave a meeting or competition for unacceptable behavior.**  
**Examples:**
  - Verbal, physical, or sexual harassment.
  - Improper use of tools/equipment.
  - Ignoring mentor/volunteer requests.
  - Drugs, alcohol, weapons – zero tolerance.
- **If you will miss a meeting, I expect an email or private Slack message.**
- **Code of conduct available on AIR Website**

# Parent/Guardian Expectations

- **AIR would not be possible without help from families!**
- **Periodically we will need help with:**
  - Fundraising efforts
  - Outreach events
  - Carpooling to competitions
  - Food at meetings/competitions
- **Prompt pick up of students at the end of meetings.**
- **Bring students to competitions on time and leave when team leaves.**



# Meeting Routine

- **Drop off personal items and cell phone in cubby.**
- **Put on safety glasses.**
- **Check in on attendance sheet.**
- **Review last meetings progress as a group.**
- **Review what we want to accomplish during the meeting.**
- **Begin cleanup 15 minutes prior to the end of the meeting and create FTC journal entry as needed.**
- **Lights off, doors locked and room left as we found it.**

# Communications

- Email is my preferred method of updating the group.
- If you do not check your email you will miss important information.
- To contact me I also prefer email:
  - [rblight@aquidneckislandrobotics.org](mailto:rblight@aquidneckislandrobotics.org)
- My cell number is 401-575-6376.
- I will limit emails to the group to once per week.
  - Be on the lookout for AIR emails as well.
- Slack
  - Student/Mentor Slack: [frc78ftc121.slack.com](https://frc78ftc121.slack.com)
  - Parent/Guardian Slack: [airpng.slack.com](https://airpng.slack.com)
  - All family members and mentors have been invited to their respective Slack workspaces. Contact me if you did not get an invite.

# Meeting Cancellation

- Each year meetings get cancelled due to severe weather.
- Families come from all over the region and must use judgment when deciding to travel to a meeting.
- If a meeting is going to be cancelled:
  1. The AIR calendar will be updated:  
[www.aquidneckislandrobotics.org](http://www.aquidneckislandrobotics.org)
  2. Slack Message to Student Slack and Parent/Guardian Slack
  3. An email will be sent out.
- These notifications will go out no later than 3 hours before a meeting.

# Team Clothing

- FRC Students  
Receive 2 T-Shirts
- FTC Students  
Receive 1 T-Shirt
- Additional clothing  
available soon on our  
website.
- Fill out free shirt form  
now!



# 2019 Competitions

## **Rick's Priorities:**

- **FTC**
  - **Incorporate electronic scouting**
  - **Better define competition sub teams**
  - **Increase team recognition in RI**
- **FRC**
  - **Simplify pit crew scheduling**
  - **Increase pit scouting efforts**
  - **Better effort at AIR SUPPORT**

# Types of Competitions - FRC

## District Event

- 2.5 Day Event
- Friday Evening – Sunday Evening
- Capped at 40 Teams
- Open Event
- Earn Points at first 2 events.

## District Championship

- 3 Day Event
- Thursday– Saturday Evening
- 64 Teams
- Qualification Required
- Points are worth triple.

## World Championship

- 4 Day Event
- Wednesday Afternoon – Saturday Night
- 400 Teams
- Qualification Required

# How to Qualify for World Championship (FRC)

## Performance

- Win the DCMP
- Be in the top ~35 teams in points after DCMP
- Means we need to qualify for DCMP
  - Be in the top 64 out of 220 teams in points after all district events are completed.

## Judged Awards

- Win Chairman's Award at DCMP
- Win Engineering Inspiration Award at DCMP
- Both must first be won at a district event.

# Types of Competitions - FTC

## State Qualifier

- 1.5 Day Event
- Friday Evening – Saturday Evening
- ~15 Teams
- Open Event

## State Championship

- 1.5 Day Event
- Friday Evening – Saturday Evening
- ~35 Teams
- Qualification Required

## World Championship

- 4 Day Event
- Wednesday Afternoon – Saturday Night
- 125 Teams
- Qualification Required
- Same venue as FRC Championship



# How to Qualify for World Championship (FTC)

## **Performance**

- Win RI State Championship as Alliance Captain

## **Judged Awards**

- Win Inspire Award at RI State Championship

# A note on school and competitions

- The top priority of all students in AIR should be school performance. AIR strives to inspire students in the fields of science and technology. That inspiration should not come at the cost of your grades.
- Students and parents should discuss with teachers any missed days of school and missed assignments/tests around 6 weeks prior to competitions.
- AIR will provide support documents for schools on request – contact Joe Menassa.
- Unfortunately for the 2019 season, for most public schools, spring break falls on competition week 8 which is the week after District Championship and the week prior to World Championship.

# Taking Awards Seriously

- **The judges do not only judge our team in the pit or the presentation room.**
- **Our team is judged well before we even arrive to the competition – past events, online interactions, and reputation all contribute to judging.**
- **All team members need to remember that they represent the entire team and AIR with their actions.**
- **Before the judges put on their name badges, they are mentors on other teams, sponsors of teams, staying in our hotel, and/or walking through the pits in plain clothes.**

# Competition FAQs

- **Is there a fee to attend competitions?**
  - There is a registration cost for the team to attend an event. However, events are free to the public and to participants.
- **Do students have to attend every day of each competition?**
  - No – event attendance is your choice (but events are really fun!)
  - For those that can't make each day due to a scheduling conflict – we'd rather have you for some of the event than not at all.

# Competition FAQs

- **What will I do at the competition?**
  - Everyone has a role and they are all important for the success of our teams:
    - **Scouting Team:** Responsible for scouting other teams and developing strategy.
    - **Awards Team:** Responsible for preparing awards presentations and interacting with judges.
    - **Pit Crew:** Responsible for robot repair and maintenance.
    - **Drive Team:** Operate the robot on the field.
    - **Team Spirit:** EVERYONE!
- **What happens if I get hurt or there is an incident at an event?**
  - A chaperone will be assigned for each day/night of the event. All incidents must be reported immediately to the chaperone, then to event staff depending on the severity.
  - All events have EMTs on site.

# Competition FAQs

- **What should I wear to competition?**
  - Team members and supporters (parents, family) should wear the current year team shirt on full competition days.
  - Just like in our workshop, you will need to bring safety glasses and closed-toe shoes.
  - Sweatshirt or a light jacket is recommended.
  - Dress for New England weather.
- **Is there food available at competitions?**
  - All venues will have concessions.
  - Some venues allow outside food.
- **How will I remember all this information at a competition?**
  - Each event will have a custom packet with important event information, agenda, contact numbers, travel information, etc.

# 2019 Competition Schedule

Date	Event	Location	Travel	
January	RI Qualifier	E. Greenwich, RI	Commute	FTC
Early Feb.	RI CMP	Warwick, RI	Commute	FTC
2/17	Scrimmage	TBD, NH	Commute	FRC
3/8 – 3/10	SEMA	Bridgewater, MA	Commute	FRC
3/22 – 3/24	RIDE	N. Smithfield, RI	Commute	FRC
3/29 – 3/31	Central MA	Shrewsbury, MA	Hotel (Optional)	FRC
4/11 – 4/13	DCMP	Worcester, MA	Hotel (Optional)	FRC
4/24 – 4/28	WCMP	Detroit, MI	Hotel + Air	Both

# FRC DCMP

- April 10 – 13 (Thursday – Saturday)
- School Missed Thu/Fri
- A small group will go up on Wednesday 4/10 to setup pit and get inspected.
  - Drive Team and Core Pit Crew Only



# FIRST WCMP

- Most inspiring event in all of FIRST
- April 24 – 28 (Wednesday – Sunday)
  - Wednesday Afternoon/Evening: Travel, Load In, Inspection, Practice
  - Thursday and Friday: Qualification Matches All Day
  - Saturday: Elimination Matches and Awards
  - Sunday: Travel
- Majority can arrive late afternoon Wednesday.
- We need at least 10 students to compete in FRC at WCMP
  - 25 Students attended in 2018
- Best way to lower costs for WCMP is to book flights now!
  - Southwest opens booking **THURSDAY 9/27**
- Students either travel with family or stay with another family. Rarely do students stay in a room on their own at the world championship.

# Travel Notes

- For all competitions, an online travel survey will be sent out to families to collect travel information.
- Please complete survey even if not attending.
- All will include a due date. It is imperative that all completed on time – the earlier the better.
- For New England events the team will block off rooms and invoice families for payment.
- For WCMP, the team will block off rooms but families will pay hotel directly.
- FRC schedule selected to allow for daily commuting
- WCMP Hotel rooms: ~\$200 per night (Estimated)
  - 4 nights – Hotel TBD
  - Priority is staying close to venue

# FRC Championship Qualification by Year

- 2010 Waitlist
- 2011 Boston Regional Victory
- 2012 Boston Regional Engineering Inspiration Award
- 2013 Pine Tree Regional Chairman's Award
- 2014 NE Regional Chairman's Award  
District Points 5<sup>th</sup> / 162
- 2015 Waitlist  
NE Engineering Inspiration Award
- 2016 District Points 21<sup>st</sup> / 182
- 2017 District Points 8<sup>th</sup> / 192
- 2018 NE Regional Chairman's Award  
District Points 8<sup>th</sup> / 209