FRC 3100

LIGHTNING TURTLES

Off-Season Newsletter #5
December 15, 2019

Turtles Trials Challenge Series

It's the Game We Play(ed)

POWER THE FUTURE

Renewable sources of energy are everywhere, all the time. Working together in the 2020 season of *FIRST*® Robotics Competition, INFINITE RECHARGE, we can support boundless innovation and create a society that's empowered, inspired, and hopeful.

INFINITE RECHARGE Launches: January 4th 2020

INSIDE:

TEAM CALENDAR

12/15 - 1/4

12/17
TEAM MEETING
Full Team Meetings
TTCS Lessons Learned
3:20p - 6p

12/19
TEAM MEETING
Full Team Meeting
Fundraising and Outreach
3:20p - 6p

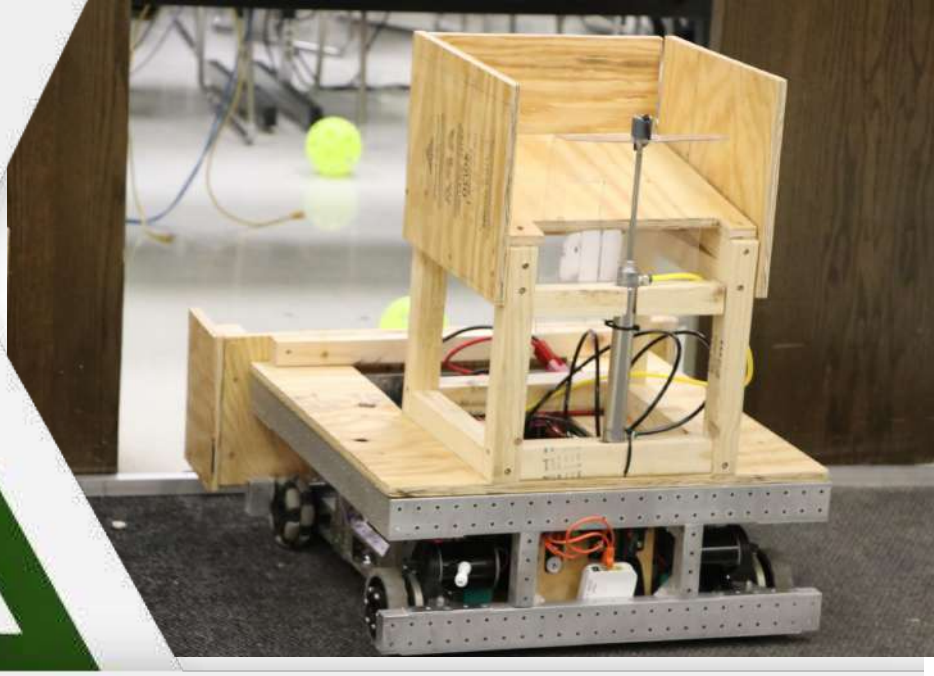
12/23 - 1/1
WINTER BREAK
No Meetings

1/1
WINTER BREAK END
Final Day of Winter Break

1/2
TEAM MEETING
Full Team Meeting
College Alumni Visit
Kickoff Prep
3:15 - 5p

1/4
FRC KICKOFF!
INFINITE RECHARGE!

WRAPPING UP OUR PRESEASON CHALLENGE

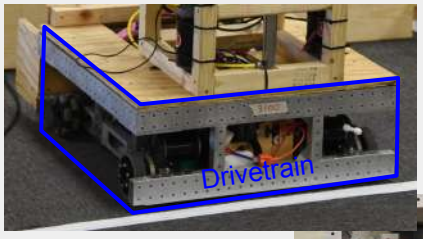


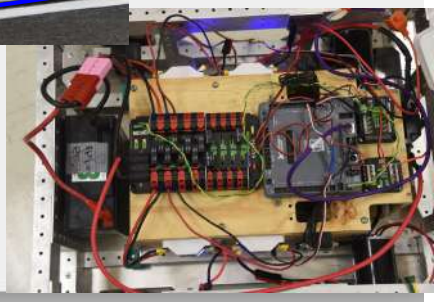
ROBOT BUILD COMPLETION

All of our teams finished building their robots in the alloted time and were ready to do their best at our competition!

CONTROL SYSTEMS FINALIZATION

Programming for the drivetrains (platform that each team's mechanism was mounted on) and for the mechanisms themselves was fully completed by our hardworking programming team. All worked extremely well and we would like to thank our programmers for putting in a lot of time and effort.





MASTERY

Final Stages of Fall Training

Most of our team members have made their decision on which division they plan to work in. Design/Build/Electrical/Programming When the build season starts in a few short weeks, they will separate into their divisions of choice to take on the tasks they've practiced and learned during our fall training. We are prepared and we can't wait!

LESSONS LEARNED

While the focus of this friendly competition was to train team members, we also learned how to work better as a team and how we can improve this competition in the future. We appreciate your continued support as we learn, develop and grow as a student-driven engineering team.

Fall Turtle Trials Challenge Series ~ Season FINALE!

GAME ON!

On Dec 13/14 our entire team participated in our end-of-training-season finale - playing 30 round-robin matches of the **Quick Quota Robotics Game** created by our Ecolab mentors.

See the game animation:
https://youtu.be/GFReO_JwpEE

2 GREAT DAYS OF COMPETITION

Our 4 teams formed 2-team rotating alliances which worked together to get the match points needed in the least amount of time. All robots performed (amazingly) well. View a game play video at:
https://youtu.be/WTHHCTggHeo

TEAM BONK WINS!

The winners of the competition were Team Bonk (pictured left). Their design, consistent quality in scoring and fighting spirit led them to victory! Congratulations Team Bonk!

THANK YOU MENTORS!

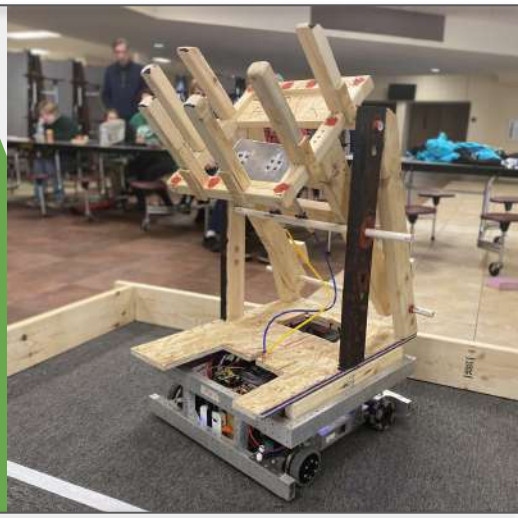
We would like to give a huge Thank You to our technical mentors who designed this competition, helped train our team members and made extra sure all were well prepared. Thanks to them, the competition went so well we know we can help other teams try it next year.

Image right: Bailey (team captain); Chris Gerhardson, Conor Smith, Nyia Xiong, Dan Gentilini
Image far right: Charles Nepomuceno
Not pictured: Eric Anderson, Paige Bollinger-Brown, Gavin Bollinger-Brown, Amina Ali, Jimmy Broomfield

Team Волк

ROBOT REVEAL

The final design of our robot includes features such as multiple “fingers” to support our choice of game piece, as well as a pneumatic piston sub-system that we can use to shoot game pieces to score. We incorporated a rung-style system to hold the robot’s arm and move between set positions for precise shooting angle and shot consistency. Our method to mount the robot to the drive train was to use rails, which fit snugly into the drive train.



COMPETITION STRATEGY

Our strategy for matches was to score two ACCELERATORS (lg orange ball) into Level 2 of the Tower. The other alliance team on the field would hopefully get 3 points during the 15-sec Autonomous Mode and score an ACCELERATOR in Level 1 of the Tower. Overall, our strategy remained very similar to our original strategy and counted on other teams to score the other needed points in our matches quickly.

MEMBER SPOTLIGHT

Arielle Newfield, a two year veteran, is the Build Division Co-Lead on the team. Inspired by her time on a FIRST Lego League team during middle school, Arielle pursued her passion for robotics by joining Team 3100. Last season, she was part of the metal fabricating team that cut and machined many of the aluminum parts on our competition robot.
FUN FACT: Arielle is the shortest person on the team!

Thunder Tortoises

ROBOT REVEAL

Our robot in unique - it has a ramp and a gate controlled by a pneumatic piston, which when lowered drops game pieces into the first level of the tower, the factory and the warehouse. It also has a plow used for moving components (small balls) into the ball collection area called the factory. It can also deliver accelerators (lg orange ball) to the other alliance team on the field with us during our match.

COMPETITION STRATEGY

Our match strategy is to go to the industrial zone (taped section where right robot is in the picture) during the autonomous control period (no driver - computer controlled) and afterwards we plan on putting an Accelerator into the first level of the tower. We can then push Accelerators on the field to the other team so they can human place on their robot and score in the second level of the tower.

MEMBER SPOTLIGHT

Jacky Luo is a sophomore & team design lead and this is his second year on the team. He joined because he thought that it'd be fun to build robots with his friends (it is!). He also plays tuba in the school band.

Tate and Everyone Else

ROBOT REVEAL

Our robot used two motors to power wheels on a small wooden frame. We used these wheels to hold and shoot accelerators to score, and were able to shoot to different levels by switching a locking pin on the overall frame holding our the mechanism.

COMPETITION STRATEGY

Our robot was programmed to move to a portion of the field without any human interaction (3 points). We will also score accelerators into the 2nd level tower (10pts). While we originally planned to grab accelerators from the ground we had to change our design because it was too complex and got them instead from a human player.

MEMBER SPOTLIGHT

Adelita Ybarra, The reason Adelita joined robotics was that she heard about it, decided to try it out, and the longer she stayed the more grew to like it. She's a member of the fabrication division.
Fun(?) Fact about Adelita: she almost died in a tsunami and she really really REALLY loves ice cream (that's fun - right?).

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ROBOT REVEAL

We built our robot to score competitively in four different ways. It shoots into the level two of the tower (30 points), drops balls into level one of the tower (10 points), drops a ball onto a field piece called the warehouse (doubling point value of all small balls in the warehouse) and lastly can deposit both big and small balls into the factory field piece (1 point each). It's a multi-talented fighting machine!

COMPETITION STRATEGY

Our competition strategy is to score in the industrial zone (3 points) during autonomous, and then place two balls into the second tier of the tower (30 pts each) as fast as possible. If we are in an alliance with team Bonk, or team Tate & Everyone Else, we would alternate attempts on tier two tower until we score two shots. We'd then alternate til we get one ball into tier one tower (10 pts). If we are allied with team Thunder Tortoises, we will get two balls into tier two tower while the Thunder Tortoises get ten points for scoring in the warehouse.

MEMBER SPOTLIGHT

This week's member spotlight is Kai. They are a freshman rookie on team 3100 and they are in the programming division. Kai's been learning the Java programming language since the start of the year. Kai joined The Lighting Turtles because their dad works for one of our sponsors and their brother was on the team several years back. Kai promised to try robotics at Sibley, fell in love with the sport and now is a member ***for life***. Outside of robotics Kai is on the math team, sings in choir, and is actively pursuing their dream of becoming a science teacher.

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A Big **Thank You** to all of our sponsors and supporters!

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