JANUARY 31, 2018
TECHHOUNDS NEWSLETTER

THE NUTS AND BOLTS

WATER AND ROBOTS

Waterjet cutting is a technique where water at extremely high pressures (between 10,000 and 15,000 pounds per square inch) is used to precisely machine parts made of wood, acrylic, and soft metals like aluminum. In order to finely cut something much harder than water, an abrasive must be added. Our friends at Waterjet Cutting of Indiana inject industrial grade pulverized granite into the jetstream to cut harder materials. Consequently, their workshop has a pinkish hue from the granite splashing out of machines. This year we used waterjet technology to cut many parts of our robot. According to Robot Ops Lead Derek Fronek, "waterjet cutting allows members to better engage themselves and further their engineering knowledge." This year TechHOUNDS members Ethan DeVries and Derek Fronek got to experience under the guidance of four-year mentor Mr. Waidner this unique opportunity.

Before our parts can be cut by Waterjet Cutting of Indiana, it's important to have a precise and up-to-date CAD (Computer Aided Design) model of our robot and its parts.

UPCOMING EVENTS

February 20:
Stop Build Day
March 24 & 25:
Plainfield District
March 30 & 31:
Tippecanoe District
April 13 & 14:
State Championship

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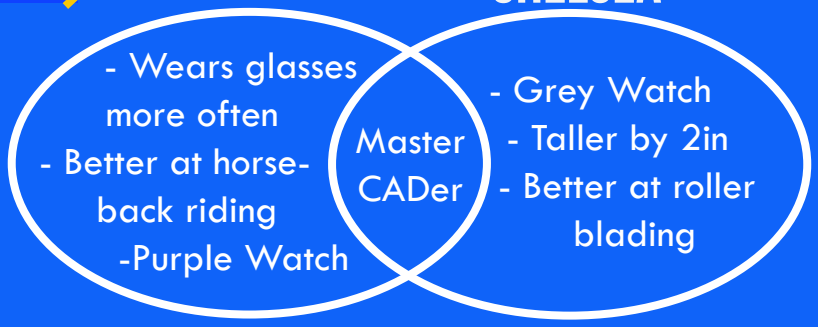
MEET THE MASTERCADERS

In order to invent the future, we first have to design it. Computer Aided Design, more commonly known as CAD, has become our main method of planning electrical boards, drivetrains, and even woodcutting plans. Some of our members dedicate themselves to our CAD projects and expanding CAD within our team. Construction member Elizabeth Cwick has used CAD to lay out the field, design the robot cart and plan several other important components of the 2018 pit. Junior Ryan Forrest has created a "Megaboard" file that has every single electrical component on it. He's using the knowledge he gained from preseason projects in order to help lead Electrical in designing this year's electrical board. In comparison to last year, electrical CAD at this level is an improvement for our team. Ethan DeVries has used CAD to create a more compact and lightweight power cube intake and has also been working on "swiss cheese-ing" our robot by removing as much metal as possible to keep our robot under the weight limit. Once Robot Ops members like Ethan have created parts, MasterCADing and identical twin duo Kendal and Chelsea Tinsley check to make sure all parts integrate correctly into their subsystems and robot as a whole. This means ensuring everything fits perfectly in order to be efficient with our time and resources. Their hard work allows us to keep on schedule as we build our robot for the upcoming season.

GUESS THE MASTERCADER



Special thank you to our dedicated team members and role models to all: The MasterCADers

ANSWERS

1. Chelsea 3. Chelsea
2. Kendal 4. Kendal

MEET OUR TEAM

A WEEKLY SHOWCASE OF THE MEMBERS & MENTORS WHO MAKE OUR TEAM TICK

ROOKIE

DREW SANCHEZ

Why did you join TechHOUNDS?

I went to the callout meeting and I thought it looked really cool. When I came to the first couple of off-season meetings, I had a really good time.

What have you liked about the team so far?

I've liked putting in a lot of work in a skill I had no idea about before this season and seeing what our team has been able to do so far. For example in IT, we've gone from a blank page to an almost fully functional scouting system.

How has TechHOUNDS exceeded your expectations?

I expected to have a great time but the skills I have acquired and the relationships I have built have been more valuable than anything I could have imagined.

MENTOR

ASHLEY BROWN

Why did you become a mentor?

I wanted to be able to give back to this great program because it encouraged me to pursue engineering.

How long have you been a mentor?

I've been a mentor for 2 years; one year I mentored a team in Dayton and now I'm here.

What do you hope students will take away from FRC?

A love of STEM, a love of learning, and a love of engineering. Although learning how to build things is an important part of this program, everything else this program teaches you is just as important.

4TH YEAR

ALLISON EARNHARDT

What has TechHOUNDS taught you?

TechHOUNDS has taught me how to be in charge of people without getting my ego in the way. TechHOUNDS has taught me how to make sure my voice is heard but also when to stay silent and let the other people who know what they're doing take charge.

What's your favorite part of TechHOUNDS?

I made friends with people who have seemingly nothing in common with me. I never would've gotten to know them otherwise.

What is one thing you wish you knew as a rookie?

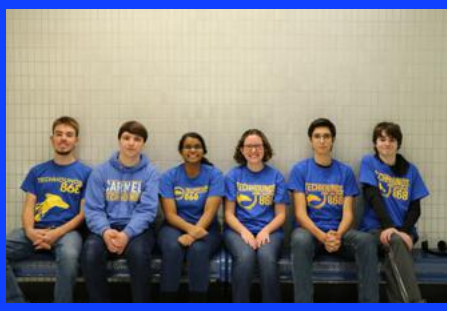
I wish I had been more proactive; looking back I feel that I hadn't given myself a strong enough basis to be as successful as I want to be. Take time to find that strong basis to build yourself off of.

DIVISION UPDATES

ROBOT OPERATIONS

"Last week was one of our major weeks of robot fabrication. We got our first drivetrain machined, and are continuing into next week to produce more finalized designs from those fabricated parts."
-Derek Fronek

"We've been working on our electrical boards for the robot and working with LEDs to see how their sensor input can change with the different states of the LEDs and mounting the sensors."
-Megan Singer



ELECTRICAL

CONSTRUCTION

"Since we've finished with the field, we've started preparing the pit for competitions. We're sanding the paint off our old pit structures and priming and painting our new pit structures."
-Marcus Ford

"We have been busy working on apparel designs and putting up locker signs around the school. Along with that we have been hard at work with our new 868 cups and the weekly video & newsletter."
-Bryce Castle

PUBLIC RELATIONS

INFORMATION TECHNOLOGIES

"We're pretty much done with the frontend portion of the scouting system. All the files got deleted a couple of times but we got them back. Overall, the website is making progress."
-Austin Hartman

"We have made more progress on the vision code, we taught our younger members about our different sensors and how we handle their outputs and we made good progress on our motion profiling."
-Caleb Smith

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