

Mecha Mules News

Quarterly Issue 3-April 2024

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The team getting the job done at our 2023 Car Wash Fundraiser.

We will again be asking for community support for our robotics and engineering teams. Look for a notice in the Eagle and on the signboard at The Bank of Pacific for our annual carwash fundraiser. The school district covers some of our

travel expenses, just like it does for our sports teams, and like our sports teams we still need to ask for your support. We began this year with enough carryover and grants, to get us started well. The FTC competition racked up a need for another \$1,500 beyond grants, the SkillsUSA team another \$400, and the Seaperch teams will come in needing about another \$3,000 (mostly for the Seaperch Maryland trip) to all break even. So, look for us this spring to be working on raising about \$4,900. In addition to the carwash on April 20, we will again be talking with businesses who would like their logo on our next year's t-shirts and sponsor banners. We are planning a bake sale and "drive the robot" activity tentatively for May 4th. Contact the school, or Julie Burke our Fundraising Chair at jburke@aspireconsultllc.com if you can help. Donations can be made by writing checks to the "Wahkiakum ASB", with "Mecha Mules" in the memo line.

January-March

FTC State Robotics

By Ron Wright



State FTC Championships at the Amazon Building in downtown Seattle: Our FTC team members waiting at inspection to get their robot (#11186) approved. We were perfect !! Chandler behind our robot, Jamie with his back to the camera, Jett looking down, and Cor standing on the right.

Photo from the regional championships showing the competition field and our alliance partner. Cor is placing the robot with coach Amanda observing. Lead driver Jamie is behind the robot.





The dinner party the night before the state tournament. Around the table starting on the left side:

Jett (trainee), Alice (coach), Amanda (coach), Brian (mentor), Cor (coder).

Chandler (builder) at the head of the table.

Alan (veteran), Micah (veteran), Arwynn (captain), Jamie (driver), Stevie (builder).

State awards ceremony. We placed 23rd overall out of 32 teams, and also earned the trophy as the team overall best connected to their community, the Motivate Award. You can see the trophy in Captain Arwynn's hands at the bottom of the photo. Happy smiles !!

With all of our community support and our team's engagement with our community and region, we knew we had a chance. Even so, it is still amazing to be honored as the best in the state.

Come to the Robot Room at WHS to see our trophy wall. It is filled with awards.



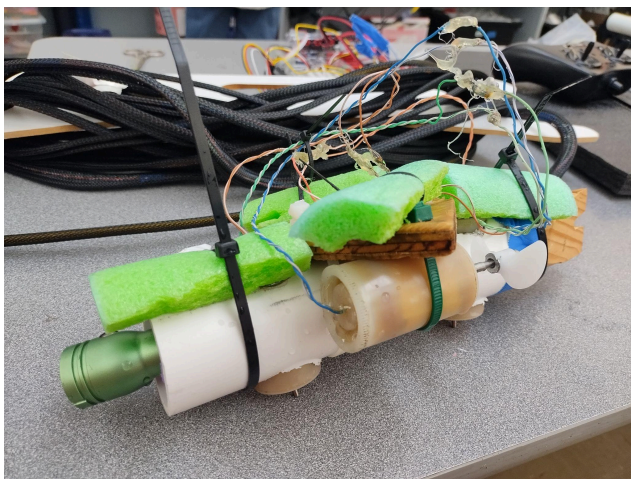
SeaPerch

A New Team

By Josh Miller/Ron Wright
SeaPerch Coaches

New Year, new team. This year's Seaperch team consisting of Charlie Pascoe, Dalton Bruntmyer, Gary Burke, Jayden Larouche, Evelyn Miller, and Sage McCoy has stood out in this year's state championship. First year driver Dalton Bruntmyer shook up the competition placing first in the Mission Course with a time of 8:00

minutes, and the highest score of the day 85 points. Placing second in Obstacle Course with a completion time of 45.5 second, missing first by 8 tenths of a second, first year competitor Evelyn Miller placed 3rd with her Technical Design Report. With a fresh team and high ambitions, team Bermuda is poised to take on Internationals in Maryland. Team Mecha Mules: Bermuda's new triangle designed underwater ROV crafted based on balance, strength, and speed is sure to shake up this year's international competition June 1, 2024.



Our middle school team was mostly new, and finished in third place overall with their radical "jet fighter" design. Their ROV was optimized for speed and maneuverability, and succeeded in winning the Obstacle Course competition. Jett Grangroth and Teagan Miller were new this year, joining the only veteran from all of last year's Wahkiakum Seaperch teams, Stevie Guitron.



Behind and to the left of Teagan, notice how blue the water looks in the background, underneath the tarp? Thanks to the Town of Cathlamet and the Marine Resource Committee, the pool was perfect.

Ron Kimmel, aka King Neptune, who began our district foray into Seaperch, is here enjoying starting up his "Submarine Barbecue" for the first time. His friend, Pak, built this for him.

Notice the smoke coming out of the "sail" ... Ron's comment was: "It looks just like a diesel submarine snorkeling." Enjoy Ron, and thanks for everything !!





Preparing for the International Seaperch Competition and a Trip to the East Coast

By Amanda Heston-Mentor

Spring is here which means it's Seaperch Season. Seaperch is the underwater robotics competition the Mecha Mules has participated in since 2021. After our team, Water Damage won the World Champion title last spring, we set our sights on introducing Seaperch to a new group of kids. Designing a robot to race in an obstacle course and complete tasks underwater takes some imagination until you can test a mostly completed robot in the pool. A few of our world-champion team members shared their time and expertise with the two new Seaperch teams from our middle school and high school. It was fun to watch the excitement and ingenuity of the new team members. Ultimately, the high school team, who call themselves team "Bermuda", received 2nd place at our local regional competition and qualified to move on to Internationals in Maryland. We are equally proud of our middle school Team "Flowers" and their 3rd place finish! Bermuda will be joining the Bubbleheads, the returning Naselle varsity team, who placed first in this year's regionals. SW Washington has some talented kids.

I am honored enough to be one of the chaperones to take the high school team, Bermuda, to the East Coast for the International Seaperch Competition in late May. We are beginning to plan our trip, which thanks to the close proximity to Washington DC, makes for quite an experience. The head coach for Bermuda, Josh Miller and I will be taking this four-member team

on this trip of a lifetime. There are so many sights, museums, and national landmarks to experience in Washington DC. We are adding four extra days to our trip to tour the area. Ford's Theater, the American History Museum, Arlington Cemetery, and the Lincoln Memorial were all big hits with the kids we took the last two years. I can't wait to take a new group and experience even more of what the city has to offer. Not only are there so many places to visit, but the size difference between Wahkiakum county and the city of Washington DC is mind-blowing. Our kids have enjoyed seeing the diversity and culture in such a big city! And of course, riding the Metro is an experience in itself!

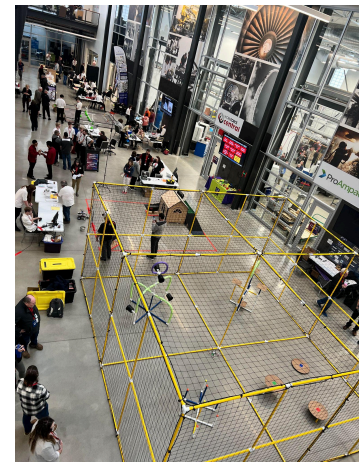
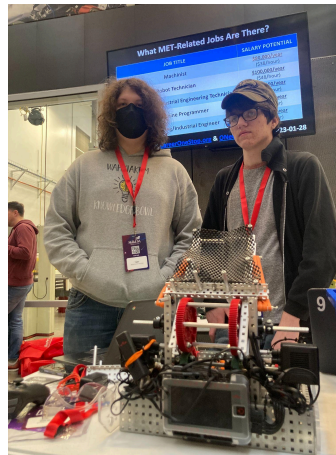
Team Bermuda consists of Dalton Bruntmeyer, Gary Burke, Sage McCoy, and Evelyn Smith with Josh Miller as Head Coach. We look forward to fundraising for the trip including our annual car wash! More information to come. If you would like to donate towards this trip and our club, cash or checks can be made out to Wahkiakum ASB with Mecha Mules in the memo line and dropped off at the high school office or mailed to:

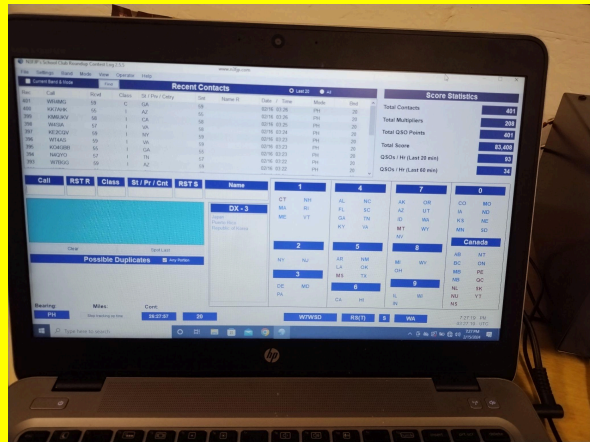
Wahkiakum High School
500 S 3rd, Box 398
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SkillsUSA update

By Ron Wright

Cor Hoogendoorn and Kamden Scuito represented WHS at the State SkillsUSA tournament March 22nd in Tacoma. They finished in 6th place. We again learned that extensive practice and testing is essential to doing well, also having a well-documented design process is important in most engineering competitions. WHS teacher Kaitlyn Kincaid toured the entire competition of over 80 technical skills events to help us field a team in more events next year. Look for more info on this early next fall.





Ham Radio Update

By Ron Wright, W7ERY

We competed in the February 2024 School Club Roundup (SCR). Our core team of two high school (Peter and Cor) and three middle school (Jett, Stevie and Teagan) students really outperformed our expectations. They had help from the sixth graders and a few others. We won't know the results until May.

The sixth grade class (photo top left) came to the radio room for two hours on Thursday, and just before they left, I asked them on a scale of 0 to 5, would you like to do this again. Almost everyone held up a 10. Nearly everyone had made one contact, and they made 25 total in their time in the shack. On Friday morning the other sixth grade class complained so much about not being able to get to go that their math teacher called and we made an "emergency" club operation opening for them.

During the SCR, this operating station was a test. Our biggest accomplishment isn't our score, rather it was "proving" our operating station and antenna. This set-up is proposed to be our county's main communications hub for health and welfare traffic in a major emergency. With 49 of the 50 states and 500 contacts, we now know it works. On the "emergency" Friday morning unexpected start-up, it literally took less than 30 seconds to be operational.

Come see our Radio Clubhouse: the upstairs section of the concession stand at the far side of the football field. The N7WAH Wahkiakum Amateur Radio Club has been instrumental in collecting, donating (over \$2,000), and mounting equipment. We have three radios installed (with two more to go ... thanks Gordon WA6TTR and Bob WB6AGE, and ... SteveH K7SH on the ladder), and a DMR (Digital Mobile Radio) Repeater for county-wide use (thanks Justin W6UDF and Gordon and Bob). The school district, in addition to making the room available, has installed ethernet to the room so we can have instant comms during emergencies with the rest of the county (thanks Paul and SteveC W7WOG). Our next step on the operational front is perfecting our Winlink capability for digital long-range communications, and, on the infrastructure front, installing better stairway access to the room. We need to build an outside stairway for safety and better access. If you can help with the stairs, please contact us WHS.

While technical, and closely related to the Robotics Club, the Radio Club has a separate ASB account. Donation checks may be made to "Wahkiakum ASB" with "Radio Club" in the memo.



We have our own FCC-given Amateur Radio callsign: W7WSD ... It stands for: Washington Seven Wahkiakum School District. Fun fact: We were the only school club in Washington state to do the SCR this year.



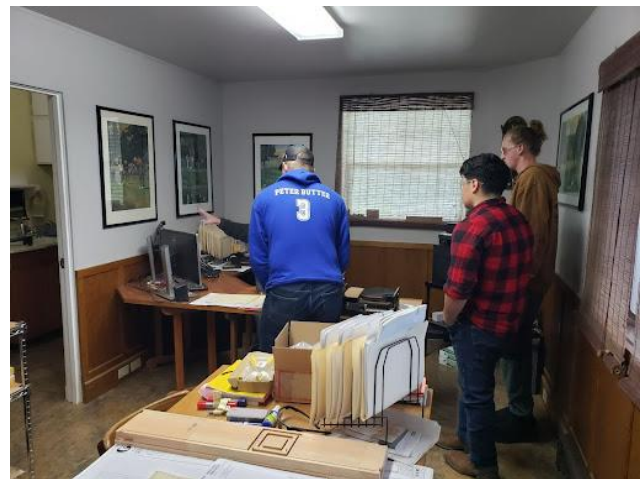
Field Trip to Elochoman Millwork

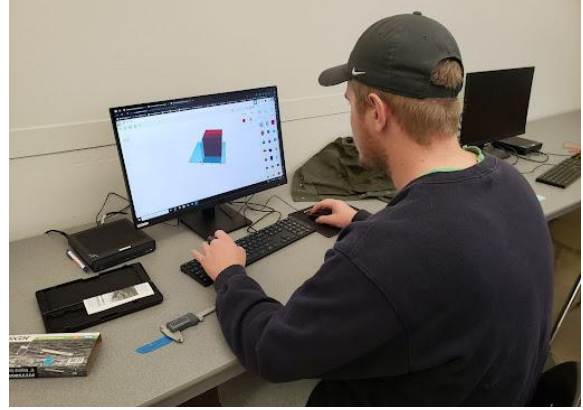
By Jessica Vik

CTE (Career and Technical Education) teacher Kyle Hurley and WHS 4-H Liaison Jessica Vik, took the school van with three students to visit Elochoman Millwork in Cathlamet, WA after school on March 21, 2024. This building is a local mystery in Cathlamet. It just looks like a shop and many locals think they make cabinets. They have never been a cabinet shop but when the owner Bob Jungers first started his business, they did make doors For cabinets. Since then his business has grown. They supply most of their doors to the Hawaiian market (about 98%) for condos and fancy housing.

The students started their tour at the desk of Bruce Wilson who has been with the company 16 years. He shared what the company does as a whole and then shared with them the beginning stages in the design department. Students got to see the program they use to write the G-code (geometric code). Bruce said when he first started this would take him all day inputting code on the machine line by line.

Now that same amount of work can take an hour with the new technology on the computer.





Two of the three students have a history in robotics that helped them relate the workings on the machines in their shop. The servos that they use to help drive their robots in high school are also what helps the CNC (computer numerical control) Machine work. There were parallels to be seen on this also with the 3D printing they do. Bruce offered to work with the robotics club in the future, showing them how to use 3D modeling on the computer to help their design process be faster for printing. "A door opened" for the school and a local business to collaborate. Bruce told them if they saw on a resume that someone was involved in a robotics club in high school, it would catch their eye. It is hard to find a CNC operator these days and someone with this background in high school could be trained in house.



Wearing earplugs and safety glasses, we entered the shop after the crew got off work. Students got to see all kinds of neat machines they use for making solid wood doors.



To name a few: there was a gluing machine, clamping machine, sewing machine that used glue thread for stitching veneer together, and, of course, their newest addition-the new CNC.



First, the students got to watch a program already in action making the cuts in wood for future assembly. When this was done, they loaded another round and had the students help get it set up and push the right buttons to make the action happen. Another door also opened here to work with Mr. Hurley's shop class in the future.



Notes from the Tech Advisor

By Ron Wright-WHS Tech Advisor

Wow - as you have seen in this newsletter, there is a lot going on in Wahkiakum School District (WSD) with engineering and robotics related activities. There is more to come in the future.

As one of our teams prepares to compete at SeaPerch Internationals this May/June, we are already starting our preparations for next fall with FTC and SkillsUSA. Engineering competitions are a “year ‘round” operation. Unlike sports, there are no school size categories: we compete with everyone. So, as one of the smallest schools we work harder and longer than most.



While we practice all year, the competition seasons for our current three main activities are:

- FTC is November-January
- SkillsUSA is January-March
- Seaperch is March-May

To achieve this level of success also depends on having help from many folks in our community. Here I list some of those who are most directly involved:

Amanda Heston - mentor in team cohesiveness, engineering perspective, and logistics

Steve Hart - infrastructure builder and robot building mentor

Josh Miller - mentor, energy “infusionner” extraordinaire, idea generator, and Seaperch coach

Mark Sutton - robot build guide, sound production for events

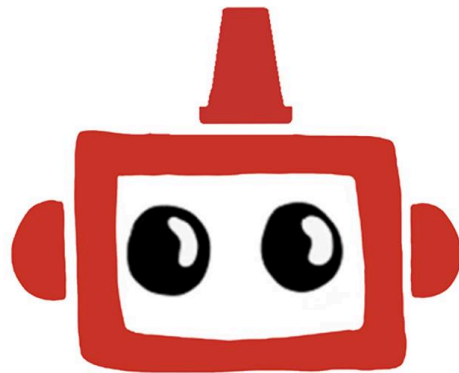
Jessica Vik - newsletter production and 4-H Liaison to elementary school staff

Alice Poulson - Science teacher, process mentor and encourager of high achievement

Kaitlyn Kincaid - Math teacher and SkillsUSA promoter

This spring's high school (HS) Seaperch team needs a special shout-out. With nearly all new team members on Seaperch, how could we possibly compete with teams from Naselle, for example, who are returning with all of their Maryland-trophy-winning veterans? Partly it was the system and returning mentors, but two people really stand out: WHS staffer Josh Miller who came aboard as the lead coach for the HS team and really helped the students in the 6th period robotics class to focus, and senior Dalton Bruntmeyer who, with about two weeks before the Qualifier, said “Let's do this”, and pulled the rest of the team to perform at an exceptional level.

Due to minor health concerns, and the fact that this program is off and running, this will be my last entry as Advisor and Head Coach. As the Robotics Tech Club moves ahead under new leadership, please give them all of your support. I will help as a consultant, a coding mentor for robotics, advisor for the Radio Club, and possibly helping Alice to start up Science and Engineering Fair projects, and Kaitlyn to get AI and Machine Learning mini-projects going.



Donations can be made to: “Wahkiakum ASB” Memo: Mecha Mules
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