

Robotics team headed to state

By Sue Stafford
Correspondent

Sisters Coder Cows robotics team is headed to the state competition next weekend, January 14–15, at Liberty High School in Hillsboro.

Sisters Middle School sixth-graders Matthew Riehle and Bodie Dachtler, and elementary school fourth-graders Cooper Merrill and Micah Dachtler, encouraged by their coach Meghan Flaherty, have been working since early September to build and program their robot.

Flaherty has coached Matthew and Bodie for the last three years, with Cooper and Micah starting this school year.

“I have coached the team since the beginning... I have zero experience or possibly negative experience. I basically answer every question with ‘Google it,’” Flaherty admits.

Flaherty’s sons are Bodie and Micah.

“I am a social worker who has zero knowledge about robotics or programming. I provide a meeting space, food, email coordination, and some team-building activities that are none tech,” she said.

“Spencer Bordonaro and David Novotny (David is at Redmond Proficiency Academy and Spencer does online school through Sisters High School) are on the First Tech Challenge team (for grades 7-12) and have mentored our team since its inception. They provide feedback, suggestions, questions and technical support, but they are not allowed to touch the computer or the robot. The team has to do all of that,” explained Flaherty.

The boys meet weekly at Flaherty’s house. Since only one boy can program at a time, they each come over one or two additional times each week to complete personalized assignments.

“Always save,” said Cooper Merrill, the newest and youngest member on the team, a lesson he learned

the hard way. After spending hours programming his mission, all his work was lost due to not pressing save. The team worked together to rewrite the mission before the tournament, as the other missions depended on it.

“But the initial shock was hard,” recalled Flaherty.

All of the volunteers at the state competition are Intel employees, (Intel has facilities in Hillsboro). Sixty teams will be attending, all of whom had to place in the top three at their regional qualifying tournament. The Coder Cows placed third in the eastern Oregon regional tournament held in December at Mountain View High School in Bend. They also won the Robot Design Award.

The First Lego League is an international program whose mission is to inspire the science and technology leaders of tomorrow, who are students age 9 to 16. Worldwide there are 255,000 participants at all levels who make up 32,000 teams, each with a robot, participating in 1,464 events in 88 countries.

Each year in August, a Global Challenge is released to encourage students all over the world to think like scientists and engineers by choosing and solving a real-world

problem related to the overall topic for that year. They also design, build, test, and program an autonomous robot using LEGO MINDSTORM technology to solve a set of missions in the Robot Game. They operate under the core values of celebrating discovery, teamwork, and gracious professionalism.

The boys have to decide what missions they want to attempt and which might be too difficult. Therefore, the robot must be designed to perform multiple tasks. The team has 2.5 minutes to get as many points as possible while avoiding penalties, like touching the robot. They have three chances to get their best score.

The project theme this year was Animal Allies, and the team had to identify a problem between animals and humans. After naming the problem, they had to propose a solution, research the solution, share it with others, and present a skit at the tournament.

Cooper and Micah worked on the project, and Bodie and Matthew mostly designed the robot with some help from the younger boys. All of the boys worked on programming missions for the robot.

“I love that a group of four boys came up with ‘Mastitis in Cows,’” said Flaherty.



PHOTO PROVIDED

It’s off to state competition for Sisters robotics competitors.

The rotolactors used by big dairies can cause mastitis in the teets of cows. So the boys thought of a way to add padding and a more human-like milking motion to the rotolactor pads.

They emailed three large national dairies. They also visited Hope Springs Dairy in Tumalo where they got to milk cows, drink raw milk, and bottle-feed calves. They had a great day and named themselves The Coder Cows.

“In the past they have been the Outlaws, but since we are not affiliated with the school we dropped that this year,” explained Flaherty.

The Coder Cows mission table and robot will be at Sisters Science Fair, where people can see demonstrations and try their hand at programming a mission, with the help of the boys.

“Sisters Science Club helped us with a donation for our team registration fee,” Flaherty said.

New teams can expect to pay approximately \$900 for team registration, a robot kit of parts, and a Challenge Set. Additional costs for event participation, travel, food, team shirts, and other optional items will vary. Grants, sponsorships and fundraising events can help defray some of the costs.

“I think FLL is a wonderful program. If anyone is interested in starting a team, I am happy to help them navigate the process. It is very easy to do,” Flaherty offered.

Bodie succinctly stated why he participates with the robotics team: “Robotics is what I want to do with my career when I’m older, and I think it’s really fun.”

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