

# Motion commotion: Robotics in Eastern Oregon

By JENNIFER COLTON

In April of this year, a robot from Eastern Oregon traveled to St. Louis, stormed a castle and threw boulder dodge balls. Run by a remote control and partially self-propelled, the robot stood its ground against hundreds of other robots and world-class competition – but this robot wasn't built in a big city by a major corporation. All the fabrication, electrical work and programming was done in a simple classroom behind the shop room at Umatilla High School and it went on to compete at the FIRST Robotic Challenge world finals.

Umatilla's Team 4125 Confidential didn't bring home a medal at the finals, but that hasn't stopped the club's momentum from branching out across northeast Oregon. Now in its sixth year, Umatilla's fledgling program, initially the only one in the county, has inspired other districts to take on robotics.

In the 2016-7 school year, robotics programs or clubs are being offered in: Echo (high school), Hermiston (multiple levels), Milton-Freewater (middle school), Morrow County (elementary through high school), Pendleton (middle and high school), Pilot Rock (high school), Stanfield (middle and high school), Umatilla (all levels) and Union (elementary and high school).

With its success, Umatilla's robotics team has grown from nine students in 2012 to 50 in 2016, and the program has expanded to include elementary and middle school students. The high school team members serve as mentors and coaches for the younger classes.

Thanks to a grant in STEM – that's Science, Technology, Engineering and Mathematics – Uma-



Photo courtesy of Umatilla Robotics

*Members of Umatilla's Team 4125 Confidential and adviser Kyle Sipe control the team's robot during a competition in Portland earlier this year.*

tilla offers robotics programs to all students. In Umatilla, a full 25 percent of the district's students participate in robotics programs. They've worked with the #ILookLikeAnEngineer campaign to raise awareness of women in STEM fields. They've won awards at district and regional levels and have been to the St. Louis world championships three times.

FIRST, which stands for Inspiration and Recognition of Science and Technology, is a nonprofit based in New Hampshire. Since its first robotics competition in 1992, FIRST has engaged hundreds of thousands of students nationally and globally. In 2017, FIRST plans to hold two championships – one in Houston and one in St. Louis – for the first time. Learn more at [www.firstinspires.org](http://www.firstinspires.org).

FIRST offers robotics programs at four levels, from kindergarten through high school. The youngest team members start with LEGO blocks and motorized elements,

progressing to designing, building and programming a robot from scratch. Teams at all levels work to solve real-world science and engineering challenges. Team 4125 Confidential competes in the FIRST Robotics Challenge (FRC), the most high-tech of the robotics competitions, requiring a full team of students to build a robot from the ground up.

An alternate competition, known as FIRST Tech Challenge (FTC), includes 7th to 12th graders. FTC teams launched their kick off in September, and, in Eastern Oregon, it promises to be quite a fight this year, as teams have formed throughout Umatilla, Morrow and Union counties.

Almost all of the robotics clubs or programs will participate in a FIRST activity.

Heidi Sipe, superintendent of the Umatilla School District, says robotics not only teaches students technical skills used to create and control the robot, but also social



skills in "gracious professionalism," teamwork and cooperation.

"I think one of the biggest things about robotics is the idea of cooperation," she said. "It's the idea of constantly keeping kids challenged and helping them understand that helping someone else get better helps everyone. That's hard for kids to understand, and in robotics, they get it."

Students can also earn scholarships either directly from organizations like FIRST or by leveraging their robotics experience to boost their chances at receiving scholarships elsewhere. Students from Umatilla, for example, have gone on to professional careers, earned scholarships and been courted by colleges like MIT.

"It's a pretty neat environment," Sipe said. "It opens a lot of doors."

At younger ages, robotics teaches motor skills and problem-solving. At higher levels, robotics can help teach programming and electrical skills students can transfer directly to a profession or higher education. At all levels, robotics clubs teach teamwork, collaboration, decision making and communication skills. As technology advances, having experience in robotics, STEM fields and critical thinking can only help students be successful – and all of that is happening right here in Eastern Oregon.

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