

PPG Foundation Awards Gearbox Labs Grant for Engineering and Coding Education

Glendale, WI – PPG Foundation has awarded Gearbox Labs a \$25,000 grant to continue its education and outreach efforts in the domains of engineering, electronics, and coding. The focus of the grant will be to reach students and teachers from Milwaukee with a further emphasis on students, teachers, and schools on the south side of the city. Gearbox Labs will bring its engineering, electronics, and coding curriculum and kits for The Arduino Classroom to students, teachers, and classrooms.

The award provides Gearbox Labs with the support to address three main areas.

- 1) **Teacher Professional Development** – Gearbox Labs will implement teacher workshops to be delivered at Milwaukee School of Engineering and reach up to 40 teachers with special outreach to Milwaukee Public School educators.

Teachers will take a workshop that introduces engineering, electronics, and coding using Tinkercad and the microcontroller the Arduino Uno. Teachers will learn how to build and code projects using LEDs, buzzers, servos, and different sensors while employing engineering methodologies. Teachers will receive a book and kit developed by Gearbox Labs for education. Workshops started in November 2022 and continue in December 2022 and January 2023.

[Workshop Introduction and Intermediate Engineering, Electronics, and Coding using Arduino - PPG Foundation \(\[gearboxlabs.org\]\(http://gearboxlabs.org\)\)](#)

- 2) **School Residencies** – Gearbox Labs will work with schools from Milwaukee including MPS and charter or private schools with significant Hispanic populations. These in classroom residencies will place Gearbox Labs authors Isabel Mendiola and Peter Haydock in classes for 5-10 weeks co-teaching with the classroom teachers in grades 6, 7, or 8.

Four classes (two sixth grade and seventh grade) at Morgandale School have already been identified with implementation to start in January of 2023. Students will learn how to build engineering prototypes and code them in C++. Additional schools are welcome to reach out to Gearbox Labs to participate.

- 3) **Virtual Workshop** – Gearbox Labs will offer in the Spring of 2023 an extended online teaching and learning experience for educators that prefer a virtual option. Participants will receive a book and kit for prototyping the projects. Teachers are encouraged to follow Gearbox Labs through social media for dates and registration information.

About Gearbox Labs

Gearbox Labs, Inc. located in Glendale, Wisconsin, was founded as a 501c3 non-profit in 2019 by Peter Haydock and Isabel Mendiola. Gearbox Labs publishes STEAM education (science, technology, engineering, arts, and math) resources for K-12 students and educators, informal learning organizations and self-directed student and adult learners.

Gearbox Labs also provides professional development programs to schools and school districts to increase

STEAM learning and teaching capacity and skills, residency programs, and a growing catalog of online courses. A nonprofit member of the Milwaukee Tech Hub Coalition and the Milwaukee K-12 Computing Alliance, Gearbox Labs is based in Glendale, Wisconsin. The Gearbox Labs curriculum has been used by over 30 schools in Milwaukee County and by schools in 45 states and 38 countries around the world.