

PPG Foundation Awards Gearbox Labs Grant for Engineering and Coding Education

South Milwaukee, WI – PPG Foundation has awarded Gearbox Labs its third \$25,000 grant to continue its education and outreach efforts in the domains of engineering, electronics, and coding. The focus of this year's award grant will be to reach students and teachers primarily from the south side of Milwaukee. Gearbox Labs will provide 3 programs for student and teachers. bring its engineering, electronics, and coding curriculum and kits for The. Schools will also be able to select a introduction to 3D Design and Printing.

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 UW-Milwaukee to reach up to 40 teachers. Special outreach will be made to Milwaukee Public School educators. New workshops will have an emphasis on data collection for science and engineering fairs.

Teachers will be able take a workshop that introduces engineering, electronics, and coding using Tinkercad and the microcontroller the Arduino Uno. Educators will learn how to build and code classroom projects, use different sensors, and collect data while employing engineering methodologies. Teachers will receive a book and kit developed by Gearbox Labs for education. Workshops will start in 2025.

- 2) **School Residencies** – Gearbox Labs will work with schools from Milwaukee including MPS and charter or private schools with significant recent immigrant or recent immigrant descended 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 4 -12.

Six classes (two at sixth, seventh, and eighth grade) at Morgandale School have already been identified with implementation to start in January of 2025. Sixth and Seventh grade students will learn how to build engineering prototypes and code them in C++ and Eighth grade students participating in a pilot of a new Raspberry Pi Pico robotics curriculum being developed by Gearbox Labs. Additionally, the Eighth grade students will receive workshops on 3D design and 3D printing. The overall goal is to prepare student for the Milwaukee Public Schools Science and Engineering Fair.

Additional schools will be added throughout the year.

- 3) **Virtual Workshop** – Gearbox Labs will offer in the Summer of 2025 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. Additional resources will be provided for Spanish Language Speakers.

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, CSforAll, and the Milwaukee K-12 Computing Alliance, Gearbox Labs is based in South Milwaukee, Wisconsin. The Gearbox Labs curriculum has been used by over 40 schools in Milwaukee County, 100 schools in WI and by schools in 49 states and 40 countries around the world.