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**Gearbox Labs, Inc.**

## **PRESS RELEASE FOR IMMEDIATE RELEASE**

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Photos and videos on request.

### **Monterrey, Nuevo Leon, Mexico & Hingham Wisconsin, USA**

Gearbox Labs Inc., a newly formed company in Sheboygan County, Wisconsin, is proud to announce that its first curriculum, *The Arduino® Classroom: STEAM Edition* is now available.

Book material kits (starter and full) along with workshops and professional development are also available through Gearbox.

### **CURRICULUM**

The curriculum targets grades 5 and up and is written to build engineering, technology, and coding skills in educators and learners and address the technology worker shortage in Wisconsin, United State and across the globe.

- 240-page curriculum with 25 projects ranging from introductory to advanced skill sets using the open source Arduino® UNO microcontroller
- The projects develop skills in digital design (using Tinkercad® and Fritzing), engineering design, computational thinking, robotics, and sensors
- The projects emphasize practical application of C/C++ using sensors, displays, servos, and motors for STEM/STEAM classrooms
- The projects are aligned to US national standards including
  - NGSS
  - ISTE
  - Computer Science Framework
  - Common Core Math and Language Arts
- The curriculum includes 15 skills development sections that focus on electronics, engineering, programming, and open source resources

- There are 110+ project extensions that serve as the foundation for science and engineering fair projects
- A website to create a learning community including educator support and a student project showcase for shared photos and videos
- The curriculum embraces the pedagogy of project-based learning (PBL) and includes rubrics and assessments based on PBL
- Workshops for the public and professional development for teachers and program leaders, classroom residencies, and workshops or presentations for the public
- We are available for keynote speaking and consulting
- Every project includes real-life connections to the content or skills presented

1000 students piloted this curriculum in Monterrey Mexico since 2014 at one of the most elite schools in the city. Students, using the skills learned from the curriculum, have won national and regional science and engineering awards in Mexico.

Gearbox Labs also produces materials kits to support the projects and workshops, professional development, and other experiences to engage and assist learners in engineering, coding, and design skill and knowledge acquisition.

#### AUTHORS

The co-authors, Maria Isabel Mendiola Ramirez of Monterrey Mexico and Peter G. Haydock of Hingham Wisconsin, have been piloting this book in Monterrey Mexico the past 4 years in one of the premier middle schools in the city. Ms. Mendiola M.Ed. is a science and technology teacher for grades 7-9 in Monterrey, Mexico. Mr. Haydock, MLIS is a former teacher in Plymouth and Sheboygan Falls, Wisconsin and brings his 15 years' experience in education publishing from National Geographic and Smithsonian to this book. Between the two authors, they have won numerous awards for their work including the National Science Competition held by the Mexican National Government and seven CODiEs for science education publications.

Gearbox Labs, Inc. was founded in 2019 as a charitable company to publish Science, Technology, Engineering, Arts, and Math (STEAM) curricular resources for K-12 students as well as provide professional services to schools and districts including professional development for teachers, residency programs for classrooms, and consultations to school districts. Gearbox Labs is a 501c3 with full charity status with the State of Wisconsin.

Ultimately, Gearbox Labs, Inc. will publish additional titles to cover topics such as the "Internet of Things" and science and engineering fair projects using the Arduino microcontroller. With the sales of these resources and services, Gearbox Labs hopes to establish a scholarship for technology and engineering students to pursue their post-high school education.

#### SERVICES AND APPEARANCES

The Arduino® Classroom has delivered workshops and presentations at

- Mead Public Library, Sheboygan, Wisconsin
- Chicago Public Library, Harold Washington Library, Chicago, Illinois

- John Michael Kohler Arts Center, Sheboygan, Wisconsin
- Our Savior Lutheran School, Wauwatosa, WI

The Arduino® Classroom will deliver workshops and presentations at

- Madison Mini Maker Faire, Madison WI
- Plymouth Public Library, Sheboygan Wisconsin
- Mead Public Library, Sheboygan Wisconsin
- Atlas Preparatory Academy, Milwaukee WI

The Arduino® Classroom was at

- Maker Faire Milwaukee, September 2019
- Maker Faire Louisville, September 2019
- Wisconsin Association of Talented and Gifted Conference, October 2019
- Wisconsin Science Festival (Kohler, Random Lake, and Sheboygan, WI), November 2019
- sySTEMnow Conference, Milwaukee WI
- Maker Faire Cleveland, November 2019
- STEM Expo – Milwaukee School of Engineering, Milwaukee WI
- Girls and STEM, Discovery World, Milwaukee, WI

The Arduino® Classroom will be at

- NSTA Regional, Cincinnati, OH, November 2019
- Sheboygan Mini Maker Faire June 2020
- CESA 9 Conference, August 2020

The Gearbox team is building its outreach and capacity through its efforts and are expanding within the United States.

*Quote 1: Knowing how to code is becoming a necessity to survive in the STEAM environment. If we don't start integrating it into STEAM classrooms our students will fall behind. Whether you are an expert or novice, The Arduino Classroom is an excellent way to start the process.* Stacey Rudolph, Full STEAM Ahead, Arlington, VA

*Quote 2: I have worked my entire career to advance student's abilities to pursue STEM careers or appreciate how STEM is found in their daily lives. We are pleased to write this book based on our many years of education experience. We feel this book addresses a critical shortage of practical skills needed in the technology and engineering sector.* Peter Haydock, Hingham, WI, USA

*Quote 3: My students are always fully engaged when we build our Arduino® projects. The project-based learning approach using Arduino® made chemistry and physics easier to learn and extremely fun for the students in my classes. Many of my students went on to careers in science, technology, and engineering because of this experience.* Isabel Mendiola, Monterrey Mexico

*Quote 4: The Arduino platform is an excellent and inexpensive path to learning computer science, practical device programming, engineering, using technology to enhance the arts, and much more. Both Peter and Isabel are highly qualified educators. I have had the joy of working with Pete for many years*

*and am excited to see The Arduino Classroom.*

*When I first saw this on Youtube, my first thought was to get my sons to see the many videos. My second was to reach out to Peter and Isabel to introduce them to such a fantastic concept. Imagine my surprise to learn they were responsible.*

#### References

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<https://www.linkedin.com/in/peterhaydock/>

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Author Isabel Mendiola works with students at her school in Monterrey, Nuevo Leon, Mexico on a temperature-controlled fan from The Arduino® Classroom.

