

JMWA PROVIDES STEM STUDENTS OPPORTUNITY FOR HANDS-ON SUSTAINING ENGINEERING EXPERIENCE

JMWA has teamed up with North East ISD's Lee High School Science, Technology, Engineering and Math (STEM) Richard A. Middleton (RAM) Academy to collaborate on a Sustaining Engineering project for the U. S. Navy's HH-60H "Seahawk" Helicopter. JMWA was awarded a contract by the U.S. Navy to reverse engineer the Gatling gun mounts for the HH-60H in order to keep the weapons systems sustainable, operable and overcome a diminishing parts supply.



JMWA Vice President Scott Gray (Back Right) kicks off the project launch for the HH-60H Helicopter Reverse Engineering Effort with students and teachers from the STEM RAM Academy.

JMWA is developing an advanced technical data package for the HH-60H project, including reverse and re-engineering of the left and right configuration Gatling gun mounts, redesigning and providing technical drawings, developing three dimensional solid models and qualifying source(s) for manufacturing, finite element analysis, testing management and prototype generation. The STEM RAM Academy students will be working directly with the JMWA Sustaining Engineering staff as part of the overall effort.

"We are very excited to be working with the STEM RAM Academy on this project," said JMWA Vice President Scott Gray. "We have setup a work environment where the STEM RAM Academy students are acting as a "partner" with us in the modeling and design area. This will provide them with a hands-on engineering opportunity to work with the gun mount parts, and will give them insight into the day-to-day operations of an engineering firm."

The STEM RAM students formed three teams as part of the effort, working closely with JMWA Mechanical Engineer Miguel Flores and Mechanical Technician Rene Castilleja to create 3-D solid models and 2-D drawings of the Gatling gun mount parts assigned by JMWA. As part of the overall project, they presented their work to a panel of JMWA engineers on Wednesday, June 2.

Commander Larry Patrick, H-60 In-service Integrated Program Team Co-lead for the U.S. Navy at Patuxent River Naval Air Station in Maryland, encouraged the JMWA/STEM RAM partnership. "It is important to capture and nurture student interest in STEM subjects at an early age. Allowing STEM students to participate in a project with real world application in support of the Nation's defense gives students an awareness of the potential science and technology career paths and a sense of the importance of this type of work for the U.S. Navy."

Cindy Valdez, Lee High School's STEM RAM Aerospace Class Instructor, agrees. "The project is a unique opportunity for students to experience the formal business and engineering process during a project. The project, like the real world, has behavioral expectations, milestones, and deliverables. Students must work within confinements and with limitations of resources such as time, expertise and tools. With my engineering background, I can attest that having problem solving and team skills the students are learning now are essential."

STEM RAM student Mark Joaquin agrees the opportunity is excellent experience "I think that they (JMWA) are helping students get a safe introduction into the real world of work and deadlines. This is going to be an insightful way to gain an experience that will surely help us in the future."

JMWA has extensive sustaining engineering experience, having worked on the multiple projects for the U.S. Air Force including mechanical and electrical engineering support for the C-5 Cargo Aircraft Fleet and verification of Electronic Interactive Technical Manual (IETM) data for the F-100-PW229E engine configuration. JMWA is also dedicated to community involvement and has a history of fostering interest in the engineering, math and science studies at all educational levels.



JMWA Mechanical Engineer Miguel Flores (Back Left) provides HH-60H gun mount parts to students and teachers from the STEM RAM Academy.