Mentis Sciences Engineering Toolkit Vision and Development History

The Mentis Sciences Engineering Toolkit was developed by Engineers at Mentis in 2013 as a engineering learning tool to introduce High School Interns, employed at Mentis, to scaled STEM concepts. Over the years, Professional Engineers and Educators, tailored the MSET to address the limitations and gaps between the STEM objectives and the supporting educational curricula, learning objectives, and measurable outcomes required within the Undergraduate and Graduate classroom.



<u>The Mentis Sciences Engineering Toolkit</u> developed in 2015, is a robust, portable test apparatus supporting over <u>40 different test platforms</u> for use in an Advanced HS Engineering Program, University Classroom, or Professional setting.

Background



Located in the historic Mill District of downtown Manchester, <u>Mentis Sciences</u> is an engineering firm which provides advanced material design and manufacturing capabilities to Department of Defense customers. Mentis specializes in the design, development and testing of advanced composite materials with a goal of providing unique flexibility, rapid development and prototyping for various composite

and prototyping for various composite applications.

Mentis Sciences, Inc. was founded in 1996 by John F. Dignam, and his legacy continues under the strong and visionary leadership of John J. Dignam, who brings unique and innovative technical expertise to solving some of the nation's most daunting engineering challenges.



Internship Program

Mentis makes a serious commitment of its resources to support their local high school <u>internship program</u> by providing short courses in STEM related disciplines, student engineering activities and mentoring activities. As a result of these courses, Mentis Sciences started to see a gap in STEM education. Biology and Life Science concepts were often the focus of science in the



classroom, technology often hidden a smartphone app and engineering was nonexistent. Our interns and every student deserve to be introduced to STEM concepts with tools and resources that allow them to experience concepts hands-on and in a collaborative environment.

Internship Program

With this vision for the students, Mentis transferred skills used in their own manufacturing facility every day, and scaled down the concepts and tests into one integrated unit. Mentis has developed an integrated STEM toolkit that configures to complete <u>40 STEM tests</u>. With limited lab space and budgets for lab testing equipment being tight, the Mentis Sciences Engineering Toolkit (MSET) departs from the high cost limited functionality of current educational testing systems.



The MSET offers a unique view into the world of material testing and physical science. Data indicates the MSET Program increases student participation in the classroom, interest in STEM careers and opportunities for females in STEM. By using the MSET, students develop a deep understanding in STEM, engineering and physical science concepts.

Mentis is now expanding their vision for the MSET program, beyond their own interns and are offering the MSETs STEM educational opportunities to schools and <u>educational partners</u> in their community and around the United States.

Mentis believes that every student, no matter their upbringing or education status, should have the opportunity to learn, pursue their dreams and have the high-quality resources to do so. This enrichment MSET program has proven to be beneficial, providing life-changing experiences for interns, students, as well as Mentis employees. We are excited to share it with you.