

TIES Capstone Design™



STEM learning is everywhere and TIES helps design and advance it — not only by providing strategic planning support to school districts or designing STEM schools, but also creating STEM learning experiences including curriculum-embedded capstones. More than a final assignment used in STEM curriculum, capstones also provide an overarching purpose and anchor for learning. Like a capstone at the top of an arch, educational capstones structurally connect other elements of a curriculum. They play a strategic role in meeting educational goals and build on Project Based Learning (PBL) units and Backwards Design.

Custom Designed

Your curriculum is unique to your school — and so should your capstone program. TIES Capstone Design™ is not a template. It is a curriculum that teaches students a systematic approach to problem-solving that is transdisciplinary, real world and engaging with authentic assessments. The capstone model used by TIES has been road tested by students and teachers in grade K-12 schools across the U.S. and internationally. By using the Engineering Design Process, our design is iterative, responsive and adaptive for any grade, classroom or district interested in catalyzing student engagement and achievement in STEM.



In School and Out-Of-School

Since TIES Capstone Design programs are customized based on the needs of each school, it can be designed for any combination of in school, after-school and independent work time programming. Capstone planning can include capstone design, formative and summative assessments, and implementation to be used in support of classroom learning.

Capstones are a teaching tool that helps students use STEM knowledge to understand and solve complex, real-world problems.

TIES Capstones in Action

Our team of education and engineering consultants work with leadership to quickly and easily design capstones that are customized to match your needs and goals. This allows you to leverage assets and partners to connect the curriculum so that it showcases the best of your school's DNA. Educators become designers of student experiences that include:

Tackling real problems related to challenges chosen by the school — whether issues of local, national or global concerns.

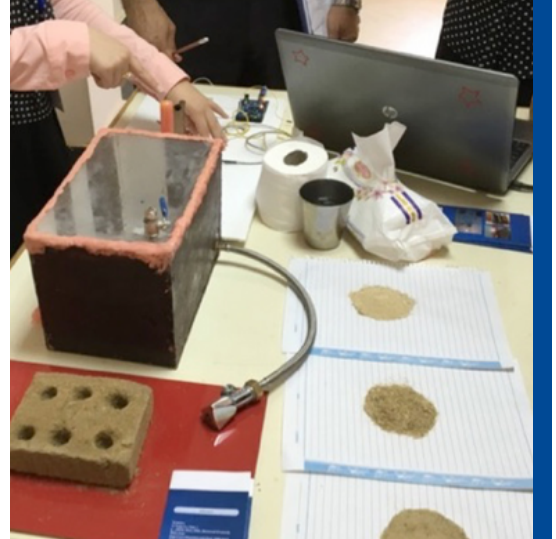
Engaging in science and engineering practices using inquiry and design to learn rigorous 21st century skills and knowledge.

Connecting to external experts and explore potential career fields that inspire student curiosity and allows them to understand the interconnectedness between their classes and real world issues.

Learning to create design requirements and build testable prototypes (software or hardware) connected to their solutions.

Showing evidence of what is learned through public presentations of work.

Working in small teams with educators to become proficient in the Engineering Design Process — developing a systemic, disciplined approach to problem-solving and learning to become creative, inventive problem-solvers.



TIES. Providing STEM Access for All Learners

TIES is dedicated to making STEM accessible to everyone, especially underserved and underrepresented learners. We do this by connecting stakeholders — educators, funders, community organizations, businesses and government agencies — who, through collaborative partnerships, create meaningful and gainful STEM learning experiences. Our team of consultants provides strategic planning support and guides design, training and implementation across all of our services.