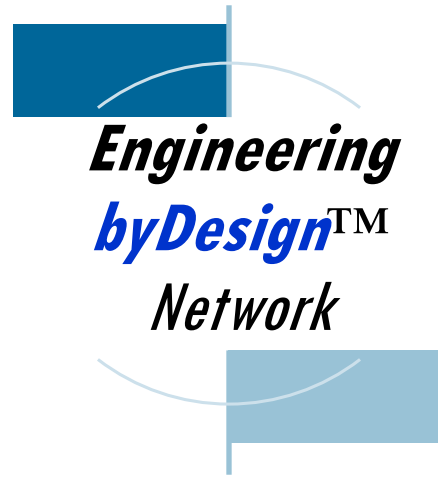


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International Technology Education Association
Center to Advance the Teaching of Technology & Science



International Technology
Education Association



*A Professional Learning
Community committed to
Technology, Innovation, Design,
and Engineering*



Engineering byDesign™

A Standards-Based Model Program

The International Technology Education Association's Center to Advance the Teaching of Technology and Science (ITEA-CATTS), has developed the only standards-based national model for Grades K-12 that delivers Technological Literacy. The model, *Engineering By Design*, is built on the *Standards for Technological Literacy* (ITEA); *Principles and Standards for School Mathematics* (NCTM); and *Project 2061, Benchmarks for Science Literacy* (AAAS). Built on the constructivist model, students participating in the program learn concepts and principles in an authentic, problem-based environment.

As a participant in the *EbD™ Network*, teachers and schools will collaborate to understand the complexities of student learning, and join forces to help all students suc-

ceed and be prepared for the global society in which they will grow up.

Engineering byDesign™ is a standards-based National Model Program that was developed in collaboration and consultation with the ITEA-CATTS Consortium, Technology Education Advisory Council, ITEA Institutional Members and the Mathematics, Science and



Engineering Community. The intent of the program is related to the development of Technological Literacy for students in Grades K-12, and delivered in the context of Technology, Innovation, Design and Engineering (*TIDE*.) The *EbD™ Network*

will be the pioneers that collaborate through synchronous and asynchronous professional learning communities to implement the program on a national level.

"The Engineering byDesign™ Network links schools that believe that the ingenuity of children is untapped, unrealized potential that when properly motivated, will lead to the next generation of technologists, innovators, designers, and engineers."

Engineering byDesign™ Goals

- Provide a standards-based K-12 program that ensures that all students are technologically literate,
- Provide opportunities for all students without regard to gender or ethnic origin,
- Provide clear standards and expectations for increasing student achievement in math, science and technology
- Provide leadership and support that will produce continuous improvement and innovation in the program.
- Restore America's status as the leader in innovation
- Provide a program that constructs learning from a very early age and culminates in a capstone experience that leads students to become the next generation of technologists, innovators, designers, and engineers.

“Somewhere, something incredible is waiting to be known.”
- Carl Sagan



Engineering byDesign™

A K-12 Standards-Based National Model Program

K-2	1	Integrated concepts & lessons	
3-5	2	Integrated concepts & lessons	
6	MS-1	Exploring Technology	18 weeks
7	MS-2	Invention and Innovation	18 weeks
8	MS-3	Technological Systems	18 weeks
9	HS-1	Foundations of Technology	36 weeks
10-12	HS-2	Impacts of Technology	36 weeks
10-12	HS-3	Technological Issues	36 weeks
10-12	HS-4	Technological Design	36 weeks
11-12	HS-5	Advanced Design Applications/Probbase*	36 weeks
11-12	HS-6	Advanced Technological Applications/Probbase*	36 weeks
11-12	HS-7	Engineering Design (Highly Rigorous)	36 weeks

* Probbase—developed through NSF grant at Illinois State University



The Engineering byDesign™ Network Believes that:

- All students can learn,
- Diversity enhances the creativity of teams and individuals,
- Collaborative teams that work to solve technological problems achieve better solutions and more reliable results,
- Increasing student achievement relies on providing students opportunities that are standards-based, problem-based, and solved in an authentic environment,
- Authentic learning will increase all students' achievement in technology, science, mathematics, and English.



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