



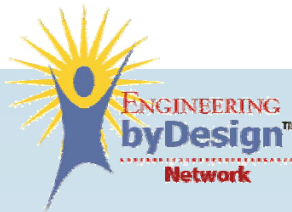
A Standards-Based Model Program

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 byDesign™*, is built on *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 participants in the *EbD™ Network*, teachers and schools will collaborate to understand the complexities of student learning and join forces to help all students succeed 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 *EbD™/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*.) Members of the *EbD™ Network* will be the pioneers that collaborate through synchronous and asynchronous professional learning communities to implement the program on a national level.



Believes That:

- All students can learn.
- Diversity enhances the creativity of teams and individuals.
- Collaborative teams that work to solve technological problems achieve better, more complex 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.

"Engineering byDesign™ is an excellent curriculum for hitting what problem-based learning is and its relationship to STEM."

*- Steven Parrott, Principal Education Consultant
Illinois State Board of Education*

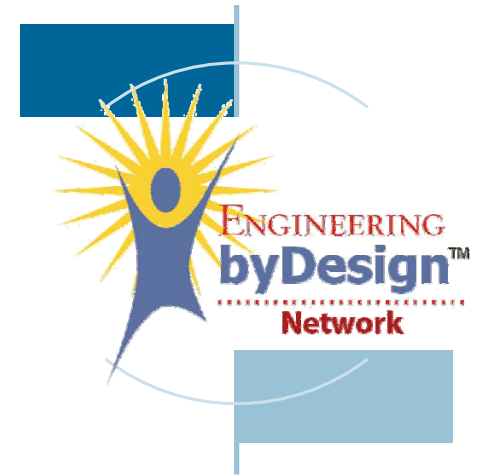


International Technology Education Association

Center to Advance the Teaching of Technology and Science

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**Teachers
Working Together to Deliver
Standards-Based Content in
Science, Technology, Engineering
& Mathematics**



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

- 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

www.engineeringbydesign.org














As a member of the ITEA-CATTS Consortium, States have access to extensive resources for implementation of standards-based curriculum, instruction, and assessments.

- Enrollment in eTIDEonline, and access to teacher resources developed in the courses.
- eTIDEonline *Blackboard* PD courses are available for porting to state or districts in the state.
- Train the trainer workshop for State teams at the annual conference.

- Unlimited distribution of curriculum within state for products developed in year of membership.
- Annual EbD™/CATTS Consortium Membership includes two curriculum products, train the trainer workshops at the annual conference, Fall Leadership Forum, eTIDEonline, web access to materials, and unlimited distribution rights (within state.)
- Online assessments for schools that participate within the State with data provided for analysis.

"Providing quality, standards-based resources for teachers helps ensure consistency of content delivery. Coupled with professional development, and the availability of CATTS staff and consortium members to provide assistance and support, membership in the Consortium enhances opportunities for teachers to improve instructional delivery of the content and for students to achieve their full potential."

- Mellissa Morrow, Director of Career and Technical Education, Sarasota, Florida

K-2	1	Integrated concepts and lessons		
3-5	2	Integrated concepts and lessons I ³ **	 	
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-2/3	Technological Issues and Impacts		36 weeks
10-12	HS-4	Technological Design		36 weeks
11-12	HS-5	Advanced Design Applications/ProBase *		36 weeks
11-12	HS-6	Advanced Technological Applications/ProBase *		36 weeks
11-12	HS-7	Engineering Design (Capstone)		36 weeks
13-16	CL	Engineering Design		Semester

* ProBase—developed through NSF grant at Illinois State University **I³—developed through NSF grant at California University of Pennsylvania

