



Engineering Alliance FAQs

Q. What is Engineering Alliance?

A. *Engineering Alliance* is an online program that aligns with the PLTW curriculum through classroom based competitions and leadership activities.

Q. Why should our school participate?

PLTW recognizes the value that competition and leadership play in engaging students and highly recommends that its network of schools participate in the Engineering Alliance program.

Q. Why was it developed?

A. *Engineering Alliance* (EA) was developed at the request of PLTW teachers, and state career and technical education leaders. Both saw the need for a program that incorporated student competitions and leadership in the PLTW curriculum. Competition is a strong motivator for students. The EA program encourages students to apply STEM learning in an exciting competitive atmosphere and instills learning concepts in a unique way that the everyday classroom curriculum does not.

Q. Who develops and maintains Engineering Alliance?

A. EA is a partnership among PLTW, the Technology Student Association* and SkillsUSA** for the purpose of incorporating student competitions and leadership in the PLTW curriculum.

Q. Is Engineering Alliance a new Career and Technical Student Organization (CTSO)?

A. No

Q. Does Engineering Alliance have student members?

A. No. Schools will pay a fee to offer the Engineering Alliance program to their students, but the students are not "members."

Q. What are the benefits of Engineering Alliance?

- A. • Reinforces PLTW curriculum
- Provides STEM experiences for students
 - Showcases program, school and students to community
 - Provides student recognition and motivation
 - Provides collaboration opportunities for students

Q. How is Engineering Alliance delivered?

A. EA is delivered through an online portal for the teacher and a separate portal for students. Interactive components are offered as well as PDF formats. All criteria for competitions are available in PDF format, including how to score a competition and certificates.

Q. What high school competitions are offered?

Virtual Quiz Bowl -- Students demonstrate their understanding of the basic concepts in the PLTW Introduction to Engineering Design™ course through participation in a virtual quiz bowl. There are five rounds designed to review the key concepts and essential questions outlined in Units One through Four of IED.

Design Problem Solution Judging Challenge -- Students demonstrate their understanding of the principles of engineering through this judging competition. Students are presented with a real-world design problem and four possible solutions to the problem; they must rank the possible solutions by applying understanding of the Principles Of Engineering™ course content.

Community Problems Presentation Contest Specifications – Students identify a local design problem to solve by applying their understanding of the engineering design after completing the three PLTW foundation courses which include Introduction to Engineering Design™, Principles of Engineering™ and Digital Electronics™. Students must create and deliver a presentation to identify the design problem, expected constraints and a possible solution.

Q. What middle school competitions are offered?

Gateway to Technology Quiz Bowl -- Students demonstrate their understanding of the basic concepts in the GTT course through participation in a quiz bowl. The quiz bowl questions are designed to review the key concepts and essential questions from the GTT curriculum.

Improve My School Presentation -- Students demonstrate their understanding of the design and modeling process taught in the first unit of Gateway To Technology through participation in the "Improve My School Presentation" competition. This competition builds upon the playground design problem at the end of the Design and Modeling unit.

Systems Identification Challenge -- Students demonstrate their understanding of mechanisms, technological systems and their application to robotics through this unique competition. There are three rounds involved in the competition. This particular event aligns best with the Automation and Robotics unit in Gateway To Technology.

Q. What is the cost of Engineering Alliance?

A. Affiliation with Engineering Alliance is \$300 per school year. (Affiliation in the 2009-2010 school year will also include the 2010-2011 school year.) Founding Partner Schools (the first 200 affiliations received before the end of the 2009-2010 school year) will also receive a Founding Partner plaque and website recognition.

*The Technology Student Association is a career and technical student organization open to students enrolled in or who have completed technology education courses. TSA's membership includes over 150,000 middle and high school students in 2,000 schools spanning 48 states. www.tsaweb.org

**SkillsUSA is a national partnership of students, instructors and industry dedicated to the preparation of America's highly-skilled and educated work force. It has over 307,000 students and instructor members throughout the United States and over 1,100 industry partners. www.skillsusa.org

"Competitions and leadership activities are an excellent complement to the hands-on, project-based curriculum that PLTW students experience every day in the classroom. We are proud to be a part of Engineering Alliance." **John Lock, CEO, Project Lead The Way**