

Technology Challenge 2019

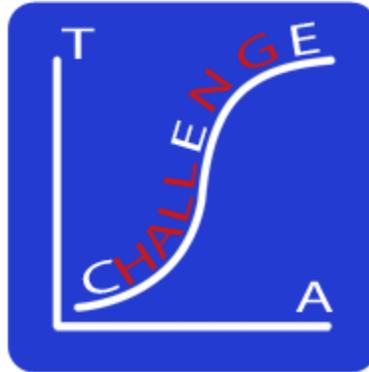


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Challenge Description

The Technology Challenge is a quiz bowl type bracketed competition that opposes 4 student ITEEA members of a TEECA affiliated chapter against 4 student ITEEA members of another TEECA affiliated chapter in a head-to-head question response competition. Each TEECA affiliated school is permitted to participate in this competition; however, the team members representing each affiliated chapter need to also be student ITEEA members. The bracketed challenge suggests that each team will have an opportunity to advance through various rounds of questions before ultimately facing off against another TEECA affiliated chapter in the championship round. Further details regarding categories of questions and competition rules are outlined below.

Standards and Benchmarks

[International Technology And Engineering Educators Association \(ITEEA\)](#)

- [Standards for Technological Literacy \(STL\)](#)

- **Standards 1 - 20:** The Technology Challenge Questions come from each of the 20 STL standards, middle and high school level benchmarks. Because the list of all 20 standards and associated benchmarks is extensive, see http://www.iteea.org/TAA/Publications/TAA_Publications.html for a full summary of the standards and benchmarks.
- Pedagogical questions and content based on accepted national effective teaching standards. Because some states subscribe to the INTASC standards, while others use TEAS, and some others might have state pedagogical standards they are required to teach, the questions asked for the pedagogical area will be broad to cover instructional techniques and educational philosophy ideas and practices connected to the various disciplines of technology and engineering education.

Knowledge and Skills

- Students should have a good understanding of each of the 20 STL, and related content and pedagogical understanding specific to the middle high/junior high and high school level benchmarks.

Procedures and Timeline

1. Each school attending ITEEA desiring to compete in any of the TEECA competition needs to be a TEECA affiliated chapter. See www.teeca.org for more information regarding affiliation.
2. Each school can register only 1 team for the TEECA Technology Challenge. To register a team visit www.teeca.org and navigate to conferences and competition signup.
3. Sign up and affiliations need to be completed prior to the first day of the ITEEA conference.
 - a. Competition team members do not need to be listed prior to the conference. Teams can be decided the day of the competition. However, teams can only consist of registered ITEEA members, and can only have a maximum of 1 graduate (master's level) student, although it is not necessary to have a graduate student.
 - b. Each competition team needs to be present and punctual to the competition or they will be automatically eliminated.
 - i. Teams should see the competition coordinator upon arrival to ensure their team is listed in the brackets.

Rules and Constraints

1. Teams
 - a. Maximum of 4 members (can compete with only a single member).
 - b. Only 1 team per affiliated school.
 - c. Teams can only participate in school is affiliated prior to the start of the competition.
 - d. Team members must be ITEEA members.
 - e. Teams can only have a maximum of 1 graduate student (master's level).
 - i. Teams are not required to have a graduate student.
2. Questions

- . Questions will be created prior to the ITEEA conference. Two professors from TEECA affiliated schools will verify accuracy and pertinence of questions and answers.
- . Any discrepancy of question or answer will require the question to be dismissed, or re-written.
- i. Professors may not share any of the questions or answers with any student or faculty involved or related (i.e., participating) in the tech challenge.
 - a. Questions will come from the middle/jr. high and high school benchmarks of the 20 STLs.
 - . Each competition round will ask the two competing teams 1 question from 10 STL based categories. The 10 categories will include: the nature of technology, technology and society, engineering design, medical technologies, agriculture and biotechnologies, energy and power technologies, information and communication technologies, transportation technologies, manufacturing technologies, and construction technologies, and one additional area: technology education pedagogy.
 - b. Students can answer the proposed questions as soon as desired, but the reader of the questions will not repeat nor finish reading the question if a student responder “buzzes” in early.
 - c. If a student fails to respond correctly, the opposing team will have 5 seconds to answer the question correctly. The team who answers incorrectly will be deducted 1 point. A correct answer is worth 2 points.

3. Responses

- . The event coordinator will read or assign someone else as the primary question reader. This requires that he/she will stand on the front stage and be able to read each question accurately with a strong voice that can be heard and understood by all participants. Note: questions may be digitally displayed for the contestants and or audience to view. The question may be displayed while the question is being read. If the a team or a participant buzzes in the question shall not be read in completion - or reread .
 - a. There are two controls for question and response verification. The first is the primary reader, who will have the questions and answers printed and in digital format in front of him. If the answer is obviously incorrect, he/she as the reader can respond with a negative confirmation by stating, “That is incorrect.” However, if the question is appropriate answered, he/she will respond with “That is correct.” The second control will be the panel of judges (min. 2) who will also have the questions in print format. They will listen intently to both the question and student response(s). If there is an issue of question or student response they can collaborate and either overrule or confirm the reader’s decision, which may entail awarding or retracting a point, throwing out a question, etc.
 - b. When the reader and or judges state that a team has correctly answered a question, a TEECA student will enter in the associated point value to a spreadsheet that will be projected. A second TEECA student will serve as quality control - keeping notes on another device ensuring the points are being appropriate tallied and reported.

Equipment and Materials

Team

1. Teams do not need any specific equipment for this event. However, this is a closed notes, closed internet and digital device, and closed collaboration event (meaning participating team members must not communicate with other people during the competition. If a team or team member is identified as communicating, talking, or

receiving input from another individual they will be excused and disqualified from the competition).

2. Student knowledge of Technology and Engineering Education core concepts. Although this is not technically a general equipment issue, in the past some students have been surprised by the breadth and depth of many of the questions. As a disclaimer, all questions will have direct correlation with the Standards for Technological Literacy published by ITEEA.

Event Coordinator

1. Vote in system/buzzer system. There should be sufficient buzzers for 4 people per team (2 team minimum). The buzzer system should have a light connected that displays when the first participant “buzzes” in.
2. A projector that can display the score, participating teams, and questions (if needed).
3. A microphone to effectively read and project the audio.
4. A digital device with the questions in a secure folder.
5. A print out of the questions for the judges to follow along. 1 print out for each judge (2 judge minimum).

Evaluation and Judging

See the [rules and constraints](#) section.

References

International Technology and Engineering Educators Association (2007). [*Standards for technological literacy: Content for the study of technology*](#). Reston, VA: Author. Retrieved October 6, 2013, from http://www.iteea.org/TAA/Publications/TAA_Publications.html