2016 Western Region NC TSA Conference
February 26, 2016
Appalachian State University

Below is a summary description of the 2015 and 2016 HIGH school level TSA competitive events. Detailed specifications and rules regarding each event can be found in the 2015 & 2016 High School Technology Activities, National TSA Conference Competitive Events Guide.

Architectural Renovation Participants **(three individuals or teams per chapter, one entry per individual or team)** develop a set of architectural plans and related materials for an annual architectural design challenge and construct a physical, as well as a computer-generated model, to accurately depict their design. *No On-Site Interviews.*

Biotechnology Design Participants (three teams of two to six individuals per chapter, one entry per team) select a contemporary biotechnology problem (that relates to the current year's published area of focus) and demonstrate understanding of it through documented research, the development of a solution, a display, and an effective multimedia presentation. *No On-Site Interviews.*

Career Preparation Participants **(three individuals per chapter)** research technology-related careers designated by the Bureau of Labor Statistics as falling in the top ten employment growth areas in the near future. As part of the research for the careers noted in the current conference year,students prepare a resume and cover letter for each career. Top 5 Semifinalists participate in an on-site job interview related to one of the careers.

Children's Stories Participants **(three teams per chapter; a team of one individual is permitted)** create an illustrated children's story of artistic, instructional, and social value. The story must have a science, technology, engineering, and mathematics (STEM) focus. It may be written in prose or poetry and take the form of a fable, adventure story, or other structure. Top 5 semifinalists will read their stories to the judges.

Computer-Aided Design (CAD) 2D, Architecture Participants **(two individuals per chapter)** create representations, such as foundation and/or floor plans, and/or elevation drawings, and/or details of architectural ornamentation or cabinetry.

Computer-Aided Design (CAD) 3D, Engineering Participants **(two individuals per chapter)** create 3D computer model(s) of an engineering or machine object, such as a machine part, tool, device, or manufactured product.

Desktop Publishing Participants **(three individuals per chapter)** produce a portfolio containing a news release, a three-column newsletter, and a poster. Semifinalists work to solve an on-site problem to demonstrate their abilities to use the computer to design and edit materials for an in-house publication. *No On-Site Problem.*

Digital Video Production Participants **(three teams per chapter, one entry per team)** develop a digital video/film that focuses on the current year's theme. Sound should accompany the film.

Dragster Design Participants **(five individuals per chapter, one entry per individual)** design, produce working drawings for, and build a CO_2-powered dragster.

Engineering Design Participants **(three teams of three to five individuals per chapter, one entry per team)** work to design and fabricate a device that will meet the specific needs of a person with a disability. Through use of a model/prototype, display, and portfolio, participants document and justify their identified problem and solution, as well as the solution's impact on a member of their community and on society. Semifinalists justify and demonstrate their solution in a timed presentation.

Fashion Design Participants **(three teams of two to four individuals per chapter)** research, develop,and create garment designs, garment mockups, and portfolios that reflect the current year's published theme. Semifinalists participate in an on-site event in which they present their garment designs to judges. *No Fashion Show.*

Flight Endurance Participants **(five individuals per chapter, one entry per individual)** analyze flight principles with a rubber band-powered model aircraft.

Future Technology Teacher Participants **(three individuals per chapter)** research and select three accredited colleges or universities that offer technology education teacher preparation as a major. Each participant writes a one page simulated college essay explaining why he/she would like to become a technology educator and what would constitute success in the field. Participants also develop and present a lesson plan to judges. Top 5 Semifinalists will present their lessons to the judges.

Manufacturing Prototype Participants **(three teams per chapter)** design and manufacture a prototype of a product (designated annually) and provide a description of how the product could be manufactured in a state-of-the-art American manufacturing facility.

Music Production Participants **(three teams per chapter; a team of one member is permitted)** produce an original musical piece that is designed to be played during the national TSA conference opening or closing general sessions.

Photographic Technology Participants **(three individuals per chapter)** capture and process photographic and digital prints that depict the current year's published theme. Semifinalists participate in an on-site event in which they capture digital images and utilize multimedia software to prepare and develop a media presentation during the annual conference. *No On-Site Problem.*

Prepared Presentation Participants **(three individuals per chapter)** deliver an oral presentation that includes a visual enhancement, based on the theme for the current year's conference.

Promotional Graphics Participants **(two individuals per chapter, one entry each)** develop and submit electronically a graphic design that can be used to promote participation in TSA-related interests.

SciVis Participants **(three teams per chapter, one entry per team)** develop a visualization focusing on a subject or topic from one or more of the following areas: science, technology, engineering or mathematics.

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Structural Design and Engineering Participants **(two teams of two individuals per chapter, one entry per team)** work as part of a team to build a structure that is posted on the TSA website. The structure is destructively tested and assessed to determine design efficiency. Semifinalists work on a construction problem that is a variation of the posted design. *No On-site Problem.*

Technical Sketching and Application Participants **(two individuals per chapter)** complete a written test in order to qualify for the semifinalist level of competition. Semifinalists must demonstrate their ability to solve on-site engineering graphics problems using standard drafting techniques. *(One hour written test and one hour on-site problem)*

Technology Bowl Participants **(one team of three individuals per chapter)** complete a written, objective test in order to qualify for oral question/response, head-to-head team competition.

Technology Problem Solving Participants **(one team of two individuals per chapter)** work together on site to develop and create a solution to a problem using the limited materials provided and the tools allowed.

Transportation Modeling Participants **(three individuals per chapter, one entry per individual)** design and produce a scale model of a vehicle that fits the annual design problem.

Video Game Design Participants **[three teams per chapter (a minimum of two individuals per team), one entry per team]** develop an E+10-rated game that focuses on the subject of their choice. *No On-site Interviews.*

Webmaster Participants **(one team of three to five individuals per chapter)** are required to design, build, and launch a website that features their school's career and technology/engineering program, the TSA chapter, and the chapter's ability to research and present a given topic pertaining to technology. Semifinalists participate in an on-site interview to demonstrate the knowledge and expertise gained during the development of the website - with an emphasis on web design methods and practices, as well as their research for the annual design topic. *No On-Site Interview.*

> ***Link to 2016 Challenge:***
> http://www.tsaweb.org/sites/default/files/2016%20HS%20Webmaster_design_brief_FINAL.pdf
> **To submit your URL, please use this link:** http://goo.gl/forms/f2RjZ7XceD
> **Be sure to submit your URL on or before 11:59 PM on February 25, 2016**

VEX VRC - Teams must be registered with Roboevents.com in order to compete. Limit of two teams per chapter. Additional information is located at

http://www.roboticseducation.org/vex-robotics-competitionvrc/tsa-vex-robotics-competition/

Be sure to refer to the following site for competition updates:

http://www.tsaweb.org/Competition-Updates