



Regional 2020-2021 Contest Catalog For Public Review

ENGINEERING TECHNOLOGY DESIGN (Virtual)

Contest Description

The purpose of this competition is to recognize an outstanding engineering design project that has been developed by a three-member team of engineering or technology students. The student team will present its innovative idea along with a design board, a design prototype and engineering notebook.

Students will compete in this competition live over the Zoom platform on February 6, 2021. Students should be ready to present at their scheduled time. The contestant schedule will be emailed to the advisor/contestants by Friday, December 11, 2020. Changes cannot be made to scheduled time slots. **Digital copy of engineering notebook and resumes must be submitted to SkillsUSA California by January 30, 2021** (details to follow).

Regional Competition

The presentation should take no less than 7 minutes and no more than 10 minutes.

Students will be judged in the following areas:

- Prototype-Complete/Design/3D Model
- Prototype-Materials
- Prototype-Ergonomics
- Prototype-Analysis (Cosmos)
- Prototype-Aesthetics
- Presentation - Information
- Presentation - Clear Communication
- Presentation - Calculations
- Presentation - CAD Drawings/3D Models
- Presentation - Cost Analysis
- Q & A - Prototype/Process
- Q & A - General Knowledge

All SkillsUSA California contest projects are subject to change due to any unforeseen facility, staffing or site-related issues. Please use these materials as a reference to prepare students for the potential contest project. SkillsUSA California regional and state contest projects are developed by state technical committee members to align with the national technical standards.



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- Q & A - Professionalism
- Overall Effect - Synergy Amongst Content
- Overall Effect - Accurate & Professional

Be sure that you have a physical model (prototype) to present to the judges over Zoom. During your presentation, it is expected that you will demonstrate how or what your prototype does.

1. Resource for Gantt chart would include www.gantt.com
2. Resource for industrial review: Contact a local engineer or industry-specific expert for the project you are designing and ask them to validate your project periodically while it's in progress as well as upon competition, this validation must be on company letterhead and included in your presentation materials.
3. During your engineering process include details on materials that you selected, ergonomics, manufacturing analysis, construction aesthetics and development of your prototype.
4. Engineering Notebook: Teams are required to keep a engineering notebook chronologically documenting the engineering process used to design and prototype their innovation. Every page must be numbered. The notebook must include entries made by each team member. Every entry must be dated and signed. The entire engineering process should be documented with such things as sketches, notes, calculations, evidence of research, photographs, test results, code descriptions, etc. as they apply to the design. Students will submit an electronic copy of their notebook to the judges by **January 30, 2021**.
5. Oral Explanation and Presentation: Students must demonstrate appropriate mastery of the engineering project. Each student must take an equal role during the allotted time. The presentation given by the entire group must reflect excellent presentation skills, as well as clear communication and explanation of the technical process related to the engineering design project. This presentation must include analysis on the design feasibility.

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For more information, please refer to the National Technical Standards for this contest.

Student Materials List

- One-page Resume (SkillsUSA format)
- Physical Project (Prototype)
- Design Board
- Engineering Notebook
- Industrial Review
- Computer with high-speed internet capability and camera to use applications such as Zoom. The minimum recommended internet bandwidth speeds for joining Zoom meetings, accessing on-demand curriculum and other online operations is 2.0 Mbps up and down. You can test your current internet speeds by following this link: <https://www.speedtest.net/>. Allow the page to load and click on GO.

Clothing Requirements

Official Dress is NOT required for Regionals. Clothing must be unbranded with no words, images, or logos. SkillsUSA or SkillsUSA California attire is recommended.

Note: Check the National Contest Guidelines and/or the updates page on the SkillsUSA website and the SkillsUSA California Competitive Events page:

- www.skillsusa.org/compete/updates.shtml
- <https://www.skillsusa.org/competitions/skillsusa-championships/contest-descriptions/>
- <https://www.skillsusaca.org/competitive-events-2>

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