

2021 SDC Scoring Document

Owing to the completely virtual nature of the competition this year, scoring rules have changed from previous years. Each deliverable will have its own method of scoring taking into account added bonuses and penalties/deductions (if any). The final form of evaluation (previously, the *Final Annual Building Income*) is modified based on the new virtual competition format and represented this year through a *Final Score* (FS).

Presentation

Each team is required to give an oral presentation no longer than seven minutes to a panel of judges at the scheduled time for the team. Judges will have up to five minutes to ask questions following the presentation. More information about the virtual presentation session will be provided in a further announcement.

Presentations shall include the following:

- Title slide (with the name of your school and your building)
- Description of the Structural System concept for the addition
- Description of Geotechnical/Seismicity tasks
- Description of the Retrofit concept

Please see the presentation judging rubric on the competition website. Any team that does not present at the scheduled time will have 5 penalty points added to *V*.

Poster

Teams are required to prepare a **5-Slide Poster** providing an overview of the competition aspects. Teams must submit their poster by email before the assigned deadline (check the official website for exact deadline). We are using a 5-Slide format this year to allow for better viewing on a computer screen. No slide template will be provided, however, please use a widescreen (16:9) format.

Along with the poster, teams are required to submit a **1-2 min video** as a short presentation/highlight for the poster. This will replace your poster presentation. The video could be created using the record option in your 5-Slide presentation in PowerPoint, however, you have the option to be more creative. Please note, your video must be uploaded as an mp4 and **cannot** be longer than 2 mins or larger than 1 GB.

Please see the poster judging rubric on the competition website. Any team that does not email their poster and video by the deadline will have 2 penalty points added to *V*.

The poster shall include the following:

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- Name of school
- Name of building
- EERI logo (available on the competition website)
- SLC logo (available on the competition website)
- 3D rendering of the building (either of structure “skeleton” or finished building with cladding after the retrofit)
- Typical floor plan of the addition part
- Summary of the deliverable tasks

Architecture

The architecture will be judged based on the aesthetic appeal and the appropriate space usage of the structural model. Renderings on the poster will be considered in the architecture score. Refer to the competition website for the scoring rubric that will be used.

Bonus Scoring

An increase in the total score will be determined by the team’s rank in the **deliverable documents average** (average of the 4 deliverable documents scores), **oral presentation**, **poster**, and **architecture**. These bonuses account for the positive effect of having effective communication skills or architectural appeal. Only the top 5 teams within each category will receive this benefit. See Table 1 for the percentage increase per rank.

Table 1: Scoring Bonuses

Rank	Deliverable Documents	Presentation	Poster	Architecture
1 st	10%	8%	8%	6%
2 nd	8%	6%	6%	5%
3 rd	6%	4%	4%	4%
4 th	4%	2%	2%	2%
5 th	2%	1%	1%	1%

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Final Score

The *Final Score* for each team will be a function of deliverable documents scores including any bonuses. As shown below, the weight of the structure (after addition and retrofit) as well as the rentable/utilized floor areas are going to affect the final score.

$$FS = \{D_1 + [(D_2 + D_4) \times W_N/W_T \times A_T/A_N]\} \times Bonuses + 0.7 \times D_3 \times Arch. Bonus - V$$

D_1 , D_2 , D_3 and D_4 are the scores for the deliverable documents. W_T and A_T are the total weight of the structure and the total rentable/utilized floor (including the addition and retrofit), respectively. W_N and A_N are values to normalize the weight and area, and V is the total number of penalties (please refer to the 2021 Design Guide for more details).

The bonuses (except for the Architecture Bonus) from Table 1 will be applied directly to the 1st, 2nd and 4th deliverable scores without penalties, as shown in the equation above.

For this virtual competition, teams are not required to provide estimates for their final scores as in previous years. In the event of a tie for an award, Deliverable 2 and/or 4 score will be used as the tiebreaker.

Competition Awards

Competition Winner and Ranking

The team with the highest Final Score. The teams ranked overall 2nd and 3rd will also be awarded.

Best Architecture Award

An award will be given to the team who ranks 1st in architecture.

Best Communication Skills Award

An award will be given to the team whom best exemplifies professional communications throughout all facets of the competition. The communications score will be primarily considered for this award, but the SLC reserves the right to consider other variables as needed to determine the winner.

$$Communications\ score = 1.5 \times (Presentation\ Score) + Poster\ score$$

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Charles Richter Award for the Spirit of the Competition

The most well-known earthquake magnitude scale is the Richter scale which was developed in 1935 by Charles Richter of the California Institute of Technology. In honor of his contribution to earthquake engineering, the team which best exemplifies the spirit of the competition will be awarded the Charles Richter Award for the Spirit of Competition. The winner for this award will be determined by the participating teams.

Egor Popov Award for Structural Innovation

Egor Popov was a Professor at the University of California, Berkeley for almost 55 years before he passed away in 2001. Popov was born in Russia, and escaped to Manchuria in 1917 during the Russian Revolution. After spending his youth in China, he immigrated to the U.S. and studied at UC Berkeley, Cal Tech, MIT and Stanford. Popov conducted research that led to many advances in seismic design of steel frame connections and systems, including eccentric bracing. In honor of his contribution to structural and earthquake engineering, the team which makes the best use of technology and/or structural design to resist seismic loading will be awarded the Egor Popov Award for Structural Innovation. The winner for this award will be determined by the SLC members.