

Junior Design

CATEGORY OBJECTIVE

Overcome a technical challenge.

REGISTRATION CRITERIA

Four (4) competitors per team. Competitors must be enrolled in the first half of their undergraduate degree.

COMPETITION FACILITIES

- 1 amphitheater
- 1 workroom per team

COMPETITION PERSONNEL

- 3 judges/clients (minimum):The judges assess team presentations.
- 1 timekeeper:The timekeeper is responsible for ensuring that the competitors stay within the time allotted.
- 1 official:The official presents the problem to the competitors and judges. The official works with the panel to clarify the problem but does not take part in judging the teams.
- 2-3 volunteers:Volunteers carry out various support tasks.

PROCEDURE

1. Presentation of Problem

The problem must be presented to all competitors and judges at the beginning of the day of competition. The category official must provide detailed explanations of what is expected from the competitors, both orally and in writing. All required material, equipment and tools will be provided at this time.

2. Question Period

The teams then have a 15-minute shared period to ask the category official any questions they may have. Only the time used to ask the questions (not the answers) should be counted in the 15 minutes.

3. Development of the Solution

The teams then have at least four hours to develop their solution, produce all required deliverables, and prepare their presentation for the judges. All the deliverables must be handed in to the official or his/her designates before the end of the allotted time. Competitors may finish before the end of the allotted time.

4. Rest Period

While not mandatory, it is recommended that competitors be allowed time to unwind, or change into clothes appropriate for giving their presentations. The presentations and trials will occur during the same day.

5. Presentation and Trials

Competitors have five minutes to present their prototype, the design rationale and a description of the design process. The teams then carry out two trials. Judges have a maximum of five minutes to ask questions.

TIMEKEEPING

- Time is halted when a judge asks a question during the Presentation of Problem.
- Time is halted when a judge answers a question during the Presentation of Problem.
- Time is started when all the teams have reached their work areas during Development of the Solution.
- The time remaining must be announced at 1 hour, 30 minutes, and 10 minutes before the end of the allotted time
- The remaining time must be announced 1 minute before the end of the allotted time for the presentation to the judges.
- A visual countdown must be given during the last 30 seconds of the presentation to the judges.
- The question period after the presentation and trial time is not included in the allotted time (watch is stopped).

TEAM ORDER

- Team order shall be determined randomly.
- If more than twelve hours will pass between the development of the solution and the presentation to the judges, the order in which teams will make their presentations shall be announced when the problem is presented
- If less than twelve hours will pass between the development of the solution and the presentation to the judges, the team's order shall be announced one half-hour before the presentation to the judges.

RESPONSE TO QUESTIONS

- Only the category official may answer questions regarding rules and procedure.
- During the presentation of the problem, the official shall answer orally and write down the answers provided.
- During the solution-development phase, only questions related to deliverable content shall be answered. No answers shall be provided in response to questions about the problem that might lead to the development of a new approach or that might invalidate a solution.
- During the solution-development phase, answers to questions shall be provided in writing to all teams at the same time. A certain amount of time (e.g. 15 minutes) may be allowed to elapse or a significant number of questions accumulated before responses are provided. A copy of the responses must be provided to the judges prior to the presentations.

ASSESSMENT AND JUDGES

- The panel must have a minimum of three judges.
- The assessment shall be carried out in the audience's presence.
- Feedback forms, from the judges, shall be provided to each team prior to the closing of the competition.

TOPIC

The previously undisclosed, practical topic should touch on a number of areas of engineering.

SUMMARY OF ASSESSMENT SCALE

Presentation	40%
<i>Deliverable compliant with expectations</i>	5%
<i>Design justification</i>	15%
<i>Design process</i>	15%
<i>Speaker(s) quality</i>	5%
Testing	60%

