Delaware Bridge Design Competition
Oral Presentation Guidelines

Refer to the Bridge Design Competition Website for Important Dates

Oral Presentations are 20% of the Total Score

Oral Presentation Specifications: Teams participating in the DelDOT Bridge Design Competition will present to a panel of judges consisting of various engineers. Each team is required to deliver a PowerPoint presentation lasting eight (8) to ten (10) minutes, followed by a five (5) minute question-and-answer session. A deduction will be applied if the presentation is shorter than eight minutes or longer than ten minutes. If a team finishes early, the judges will have additional time for questions, as they are not restricted to the five-minute limit. The presentation should introduce the team and, cover key elements from the proposal, including engineering principles, design challenges, iterations between software and trial bridges, testing procedures, results, and project schedule. Supporting materials may also be presented to the judges. For scoring guidance, please refer to the included Oral Presentation Scoring Rubric.

1. **Presentation Format**: The information below specifies the minimum requirements for the content in each team's PowerPoint presentation. It **DOES NOT** include the scoring criteria outlined in the Oral Presentation Rubric. A detailed explanation of the Oral Presentation Rubric is included later; this rubric will be used by the judges to evaluate and score each team's presentation during the competition. Teams should use PowerPoint or Google Slides to create their presentation; other software may be used but must be approved. Please note, the information outlined below represents the minimum requirements. Teams are encouraged to incorporate extra content that enhances their presentation.

    a) **Team Introduction:** Introduce your team members and their roles in the project. Include personal information such as sports you play, academic achievements, and other accomplishments you're proud of. Additionally, highlight each member's specific contributions to the project, showcasing how their unique strengths and skills have enhanced the team's overall effort in designing and constructing the bridge. This overview will help the audience appreciate the collaborative nature of your work.

    b) **Research:** Summarize the key research conducted by your team on bridge-related topics. Discuss the various components of bridge design and engineering principles explored, such as different bridge types, materials, and structural concepts. Highlight how this

research informed your design choices and the specific insights gained that influenced the final structure.

c) **Supporting content:** Include graphs, charts, and/or calculations that illustrate your bridge design, testing, and supporting work. This section may feature strength-to-weight ratios derived from your tests, comparisons of preliminary structures with your selected final design, and contrasts between data/loading in modeling software and the performance of the actual built structure. Please ensure to include at least two (2) charts, graphs, and/or calculations.

d) **Pictures:** Provide a minimum of five (5) pictures, ensuring that you include at least one of each of the following: the team working on bridge design, the team during construction, and the fully constructed bridge. Please note that screenshots of software and CAD drawings do not count as pictures.

e) **Testing:** Detail the testing process for your design and the subsequent improvements made. For a competitive bridge, it is advisable to conduct tests using the West Point Bridge Designer modeling program and to build prototypes or test structures. Once constructed, load them to failure to analyze how and where they failed; use this information to identify areas for improvement. This should be an iterative process between software modeling and construction until you finalize your design. This section should explain how you tested your structure and the rationale behind any changes made, including any specific testing methods and improvements.

f) **Challenges:** Discuss the construction challenges encountered while building your bridge and how you addressed them. This section should cover the obstacles and limitations faced during the construction process, such as timing constraints, material issues, and bracing concerns. Please include at least three (3) challenges you encountered.

g) **Lessons Learned:** Reflect on the key lessons your team learned throughout the project. Discuss any challenges faced, how they were overcome, and what insights were gained that will inform future projects. This section provides an opportunity to share personal growth and team development experiences during the process.

h) **Timeline:** Provide a timeline or calendar outlining your progress throughout the entire project. Highlight key milestones, deadlines, and any adjustments made along the way. Discuss how closely your team was able to stick to the initial project plan, including any challenges or successes in meeting deadlines, and what this reveals about your project management skills.

i) **Acknowledgements:** List the names of the adults who assisted with the project, along with a brief description of their contributions.

2. **Submission:** Each team should submit a copy of their PowerPoint presentation to Nicholas Dean at Nicholas.Dean@delaware.gov prior to the competition.