ARCHITECTURAL DESIGN

OVERVIEW

Participants develop a set of architectural plans and related materials in response to an annual architectural design challenge and construct a physical, as well as a computer-generated model, to accurately depict their design. Students must demonstrate an understanding of and aptitude for architectural design, the development of plans, Leadership in Energy and Environmental Design (LEED) applications through construction and renovation, and modeling techniques and practices. The design problem for the current school year will be posted on the national TSA website under Competitions/Themes and Problems.

ELIGIBILITY

Participants are limited to one (1) team, or one (1) individual, per chapter; one (1) entry per team or individual.

TIME LIMITS

A. Entries must be started and completed during the current school year.
B. The semifinalist presentation/interview time will be limited to ten (10) minutes.
C. The LEAP interview will be conducted as part of the semifinalist presentation/interview and will last a maximum of five (5) additional minutes.

LEAP LEADERSHIP RESUME/INTERVIEW

A Team LEAP Leadership Resume is required for this event and must be submitted at event check-in. Semifinalists will respond to interview questions related to their submitted LEAP Resume for a maximum of five (5) minutes. A team competing in this event will use the Team LEAP Leadership Resume template; an individual competing in this event will use the Individual LEAP Leadership Resume template.

ATTIRE

Competition attire, as described in the National TSA Dress Code section of this guide, is required for this event.
PROCEDURE

A. Participants access the design problem for the specific year’s challenge found on the national TSA website. They then work to complete their entry according to the event regulations.

B. Participants check in their entries and submit a LEAP Leadership Resume at the time and place stated in the conference program. No more than two (2) team members submit and place the model and documentation.

C. Entries are reviewed by evaluators. Neither students nor advisors are present at this time. A semifinalist list in random order is posted.

D. The individual semifinalist or two (2) representatives from each semifinalist team report to the event area at the time and place stated in the conference program. Semifinalists will sign up for a presentation/interview time and arrive at the designated location at this time.

E. Semifinalists will use their models and documentation for reference during the presentation/interview process. The LEAP interview will be conducted as part of the semifinalist presentation/interview and will last a maximum of five (5) additional minutes.

F. No more than two (2) team members pick up the team’s entry from the display area at the time and place stated in the conference program.

It is essential that students and advisors routinely check the TSA website (www.tsaweb.org) for updated information about TSA general rules and competitive events. This information is found on the website under Competitions/Updates. When students participate in any TSA competitive event, they are responsible for knowing of updates, changes, or clarification related to that event.

REGULATIONS

A. The architectural model must be placed on a site board, the size of which will be posted along with the annual problem each year on the TSA website.

B. Documentation materials (comprising “an electronic/digital portfolio”) are required and must be submitted in PDF format on a standard flash drive during check in. Participants must have a second flash drive copy of their portfolio with them at the conference as a back-up and for use in the semifinalist
presentation, should they advance to that level. The documentation must include the following single-sided, 8½" x 11" pages, in this order:

1. Title page with the event title, the conference city and state, and the year; one (1) page
2. Table of contents; pages as needed
3. A description of the individual/team’s interpretation of the design challenge and an explanation of the style and merits of the design concepts; one (1) page
4. Demolition plan for the existing structure, succinctly listed: maximum of two (2) pages
5. List and description of each of the construction systems (any and all that apply) and their incorporation and application to the solution: building codes, building permits, construction methods and materials, electrical wiring, plumbing, HVAC, and site requirements; maximum of six (6) pages.
6. A LEED assessment for the project, according to the USGBC standards for green building; one (1) or more pages
7. A schedule of finish materials for all exterior and interior surfaces of the architectural design (this is not a list of the model construction materials); one (1) page
8. A complete set of reproduction copies of the original hand drawings and printer/plotter-generated copies of CAD drawings (a-e below) must be submitted with the model. Each drawing should be shown on maximum sheet cut size B [11” x 17”], with the appropriate scale noted on the drawing. A copy of each drawing also must be included on the flash drive. Drawings must be appropriately scaled to fit the PDF format required for submission.
   a. original floor plan/s
   b. sectional detail drawing
   c. foundation plan
   d. roof plan
   e. landscape plan
9. Plan of Work log that indicates preparation for the event, as noted by date, task, time involved, team member responsible, and comments (see Forms Appendix or TSA website); pages as needed
10. Mentorship Verification form; students are required to seek the mentorship of an architect or other professional involved with construction and renovation (see Mentorship Verification form); one (1) page
11. A 3-D modeling/rendering drawing of the individual/team’s final design with appropriate details included; drawing sheet size B, 11” x 17”; one (1) page. Drawing must be appropriately scaled to fit the PDF format required for submission.

A hard copy set of CAD drawings, as well as the same drawings included on the flash drive, are required.

Model construction:
Participants are required to contact a local architect or an architectural design school to research and observe actual models in order to gain a greater perspective about the construction and assembly of an architectural model.
12. List of resources/references; pages as needed

C. Nothing that identifies a participant’s name, school, chapter, or state can be included on the model or portfolio.

D. Model construction concepts, materials, techniques, and applications:
   1. Balsa wood, illustration board, or similar materials are suggested (but not limited to) for use as interior walls, exterior walls, and roof construction.
   2. Foam core board that is $\frac{1}{2}”$ thick or greater is recommended for use as the site board for the model.
   3. Dowels may be used to represent columns or circular components.
   4. Participants should pay close attention to the scale of all materials as they relate to the scale of the model.
   5. The model may not include any electrical or battery-powered enhancements.

   No glass or liquid may be used as part of any model.

E. LEAP Leadership Resume (see Forms Appendix or TSA website)/Interview — Students document, in the LEAP leadership resume (see resume template), the leadership skills that they have developed and demonstrated while working on this event. Semifinalists will respond to questions about the content of their resumes as part of their presentation and/or interview. The LEAP Leadership Resume/interview guidelines and other resources can be found on the TSA website. A team competing in this event will use the Team LEAP Leadership Resume template; an individual competing in this event will use the Individual LEAP Leadership Resume template.

EVALUATION

Evaluation is based on points earned for the digital portfolio, the design process, the architectural model, the LEAP requirements, and the semifinalist interview. Please refer to the official rating form for more information.
STEM INTEGRATION

This event aligns with the STEM educational standards noted below. Please refer to the STEM Integration section of this guide for more information.

Science, Technology, Engineering, Mathematics

TSA AND CAREERS

This competition connects to one or more of the career areas featured in the TSA AND CAREERS section of this guide. Use *The Career Clusters* chart and the *TSA Competitions and The Career Clusters* grid as resources for information about careers.

CAREERS RELATED TO THIS EVENT

- Appraiser
- Architect
- Construction manager
- Interior designer
- Urban and regional planner
HIGH SCHOOL ARCHITECTURAL DESIGN
MENTORSHIP VERIFICATION

I certify that I have served as a mentor to the student(s) named below.

________________________
Student(s) involved (please print)

________________________
Signature of student(s)

________________________
Date

________________________
TSA chapter advisor (printed name and signature)

________________________
Date

________________________
Name of mentor (please print)

________________________
Occupation (please print)

________________________
Employer (please print)

________________________
Signature of mentor

________________________
Date