

# ARCHITECTURAL DESIGN



## OVERVIEW

Using leadership and 21<sup>st</sup> century skills, 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. Participants must demonstrate an understanding of and aptitude for architectural design, the development of plans, modeling techniques and practice, and the awareness of the role that the built environment can play in human behavior and interactions. The design problem for the current school year will be posted on the [TSA website](#) under *Themes & Problems*.

## ELIGIBILITY

One (1) team per chapter may participate; individual entries are permitted.

## TIME LIMITS

### PRELIMINARY ROUND

- A. All components of the chapter's documentation portfolio entry must be finished, submitted, and accessible via the Internet by 11:59 p.m. ET on a designated date in mid-May.

### SEMIFINAL ROUND

- A. Up to ten (10) minutes is allotted for the presentation/interview.

## ATTIRE

TSA competition attire is required for this event.

## PROCEDURE

### PRE-CONFERENCE

- A. Participants access the annual design challenge found on the [TSA website](#) under *Themes & Problems*.
- B. Participants prepare the documentation portfolio according to the regulations.
- C. Participants prepare their architectural design model.

- D. The documentation portfolio must be submitted by 11:59 p.m. ET on a designated date in mid-May.
- E. Submission information will be provided on the [TSA website](#) under *Competition Updates*.

### PRELIMINARY ROUND

- A. A list of twenty-four (24) participants is posted on the first full day of the conference; of these participants, models are judged on-site at the conference to determine the twelve (12) semifinalists.
- B. No more than two (2) team members report to the event area at the time and place stated in the conference program to submit the model entry.
- C. Models are evaluated by judges. Neither students nor advisors are present at this time.
- D. A list of twelve (12) semifinalists (in random order) are posted.

### SEMIFINAL ROUND

- A. Semifinalists report at the time and place stated in the conference program to sign up for a presentation/interview.
- B. Up to two (2) representatives from each semifinalist team report at the assigned time and place to participate in the presentation/interview.
- C. 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.
- D. The top ten (10) finalists are announced at the awards ceremony.

## REGULATIONS AND REQUIREMENTS

Students will work to develop their leadership and 21<sup>st</sup> century skills in the process of preparing for and participating in this TSA competitive event. The development and application of those skills must be evident in their submission, demonstration, and/or communication pertaining to the entry.

## PRE-CONFERENCE

### A. Documentation Portfolio:

1. Documentation materials (comprising a "portfolio") are required and must be submitted as a multi-page PDF document with pages in this order:
  - a. Title page with the event title, the team identification number, the conference city and state, and the year; one (1) page
  - b. Table of contents; pages as needed
  - c. 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
  - d. List and description of each of the construction systems (any and all that apply) and their incorporation and application to the solution: delivery, construction methods and materials, electrical wiring, plumbing, HVAC, and site requirements; maximum of six (6) pages
  - e. A public health statement defining the restrictions currently in place in your town/city/county and/or state (or students may define their own scenario if the current one is not conducive to the challenge) must be included; one (1) page
  - f. 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
  - g. A complete set of student created drawings (can be CAD drawings); pages as needed
    - i. Drawings must be appropriately scaled to fit the PDF format required for submission.
      1. Site Plan
      2. Overall Floor Plan(s)
      3. Enlarged Floor Plans as required to describe design elements
      4. Roof Plan
      5. Exterior Elevations
      6. Building Section(s)
      7. Interior Elevation(s) or Perspective(s)

- h. Plan of Work log (see Forms Appendix); pages as needed
- i. Mentorship Verification form; participants are required to seek the mentorship of an architect or other professional involved with construction and renovation (see Mentorship Verification form); one (1) page
- j. A 3D 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
- k. List of resources/references; pages as needed
- l. Photographs of the finished model (maximum of four photos per page); maximum of three (3) pages

## PRELIMINARY ROUND

### A. Model:

1. The architectural model must be placed on a site board, the size of which is posted along with the annual problem each year on the [TSA website](#) under *Themes & Problems*.
2. Model construction concepts, materials, techniques, and applications:
  - a. Foam core sheet or similar materials are suggested (but not limited to) for use as interior walls, exterior walls, and roof construction.
  - b. Foam core board that is ½" thick or greater is recommended for use as the site board for the model.
  - c. Dowels may be used to represent columns or circular components.

3. Participants should pay close attention to the scale of all materials as they relate to the scale of the model.
4. The model may not include any electrical or battery-powered enhancements.
5. No glass or liquid may be used as part of any model.
6. No additional points will be awarded for superfluous aesthetic additions.

## CAREERS RELATED TO THIS EVENT

This competition has connections to one (1) or more of the careers below:

- Appraiser
- Architect
- Construction manager
- Interior designer
- Urban and regional planner

## EVALUATION

### PRELIMINARY ROUND

#### Tier 1

- A. The documentation portfolio

#### Tier 2

- B. The architectural model

### SEMIFINAL ROUND

- A. The presentation/interview

Refer to the official rating form for more information.

## STEM INTEGRATION

This event aligns with the STEM (Science, Technology, Engineering, and Mathematics) educational standards.

## LEADERSHIP AND 21<sup>ST</sup> CENTURY SKILL DEVELOPMENT

This event provides opportunity for students to build and develop leadership and 21<sup>st</sup> century skills including but not limited to:

- Communication
- Collaboration/Social Skills
- Initiative
- Problem Solving/Risk Taking
- Critical Thinking
- Perseverance/Grit
- Creativity
- Relationship Building/Teamwork
- Dependability/Integrity
- Flexibility/Adaptability

# HIGH SCHOOL ARCHITECTURAL DESIGN MENTORSHIP VERIFICATION

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

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Student(s) involved (please print)

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Signature of student(s)

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Date

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TSA chapter advisor (printed name and signature)

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Date

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Name of mentor (please print)

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Occupation (please print)

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Employer (please print)

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Signature of mentor

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Date

# ARCHITECTURAL DESIGN

## 2023 & 2024 OFFICIAL RATING FORM

### HIGH SCHOOL

Judges: Using minimal (1-4 points), adequate (5-8 points), or exemplary (9-10 points) performance levels as a guideline in the rating form, record the scores earned for the event criteria in the column spaces to the right. The X1 or X2 notation in the criteria column is a multiplier factor for determining the points earned. (Example: an "adequate" score of 7 for an X1 criterion = 7 points; an "adequate" score of 7 for an X2 criterion = 14 points.) A score of zero (0) is acceptable if the minimal performance for any criterion is not met.

#### Go/No Go Specifications

- Before judging the entry, ensure that the items below are present; indicate presence with a check mark in the box.
- If an item is missing, leave the box next to the item blank and place a check mark in the box labeled ENTRY NOT EVALUATED.
- If a check mark is placed in the ENTRY NOT EVALUATED box, the entry is not to be judged.

- ☐ TIER 1 – PDF of the documentation portfolio was submitted by the necessary deadline
- ☐ TIER 2 – Design Challenge and Model is present
- ☐ ENTRY NOT EVALUATED

TIER 1 – DOCUMENTATION PORTFOLIO (120 points)				Record scores in the column spaces below.
CRITERIA	Minimal performance 1-4 points	Adequate performance 5-8 points	Exemplary performance 9-10 points	
<b>Portfolio Components</b> (X1)	Portfolio is unorganized and/or is missing three or more components.	Portfolio has most components and is generally organized; it has sufficient content.	All components are included in the portfolio; content and organization are excellent.	
<b>Description of Design Interpretation</b> (X1)	The description of the design and style is unclear or vague.	The description of the design and explanation of the style are included; they are adequately presented.	The description and merits of the design and explanation of the style are clear, effective, and convincing.	
<b>Construction Systems</b> (X1)	There is little or no evidence of attention to the various construction systems.	Most, but not all, construction systems are addressed; they are generally well presented.	All applicable construction systems are addressed, clearly documented, and well presented.	
<b>Public Health Statement</b> (X1)	The statement is poorly written and missing restrictions for the design problem.	The statement is missing details and is not clear for restrictions for the design problem.	The statement is detailed, clear, and concise for restrictions for the design problem.	
<b>Schedule of Finish Materials</b> (X1)	Many elements of the interior and exterior finish schedules are missing or incomplete.	Most, but not all, elements of the interior and exterior finish schedules are included.	All interior and exterior finish schedules/materials are detailed and explained clearly.	
<b>Drawings</b> (X2)	A few of the required drawings are present, but they are lacking in quality.	Most, but not all, of the required drawings are included and are in the proper format.	All required drawings are included and in the proper format.	
<b>Plan of Work Log</b> (X1)	The Plan of Work log lacks major elements of documentation.	The Plan of Work log is somewhat complete and generally reflects the time and work necessary for the project.	The Plan of Work log completely and accurately reflects the time and work necessary for the project.	
<b>Mentorship Verification</b> (X1)	The verification form is missing or present and missing information or signatures.	The verification form is present and missing necessary information or signatures.	The verification form is complete and has all of the necessary information and signatures.	
<b>3D Modeling/Rendering</b> (X1)	The drawing is present and displays minimal effort.	The drawing is complete, clear, and includes details.	The drawing is high quality, clear, and includes necessary details.	

TIER 1 – DOCUMENTATION PORTFOLIO (120 points) – continued				
<b>Resources/References</b> (X1)	There is little or no effort to provide resources and references.	Resources and references included are generally presented appropriately.	There is clear evidence of the appropriate use of applicable resources and references.	
<b>Photographs of the Model</b> (X1)	The photographs only show simple views of the model and are of poor quality.	The photographs show multiple views from various angles and the quality is good.	The photographs are high quality and show multiple views and angles of the model's interior (with roof removed, if applicable) and exterior.	
<b>TIER 1 – DOCUMENTATION PORTFOLIO SUBTOTAL (120 points)</b>				

TIER 2 – DESIGN CHALLENGE (50 points)				
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	Record scores in the column spaces below.
	1-4 points	5-8 points	9-10 points	
<b>Effectiveness of Design</b> (X2)	The design is ineffective in meeting the needs of the challenge.	The design is somewhat effective in meeting the needs of the challenge.	The design is clearly effective in meeting the needs of the challenge.	
<b>Access and Flow</b> (X1)	The design reflects an ineffective traffic flow pattern and/or use of space to gain access to the structure.	The design reflects a somewhat effective traffic flow pattern and use of space to access the structure.	The design presents a clear, effective traffic flow pattern and full consideration of the use of space.	
<b>Aesthetic Appeal</b> No additional points will be awarded for superfluous aesthetic additions (X1)	There is little evidence of consideration of aesthetics and curb appeal in the design.	There is some evidence that aesthetics and curb appeal have been considered in the design.	There is clear evidence that aesthetics and curb appeal are fully and effectively integrated into the design.	
<b>Creativity and innovation</b> (X1)	The design lacks originality and exhibits few, if any, creative and/or innovative applications.	Some unique, innovative, and creative concepts are incorporated in the overall design.	Unique, creative, and innovative approaches are fully incorporated into the design.	
<b>TIER 2 – DESIGN CHALLENGE SUBTOTAL (50 points)</b>				

TIER 2 – MODEL (50 points)				
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	Record scores in the column spaces below.
	1-4 points	5-8 points	9-10 points	
<b>Quality of Construction</b> (X2)	Construction is of poor quality and appearance, with little or no attention to neatness.	Construction is somewhat neat and has appropriate quality and appearance.	Construction is of excellent quality and exemplary appearance.	
<b>Use of Materials</b> (X1)	The choice of materials is ineffective and inadequate for the type and scale needed.	There is effective choice of materials and some attention to scale.	There is effective and excellent use of materials and accurate choice of scale.	
<b>Design Representation</b> (X2)	The model is ineffective in depicting the requirements of the design challenge.	The model is somewhat effective in depicting the requirements of the design challenge.	The model clearly and effectively incorporates and depicts all aspects of the design challenge.	
<b>TIER 2 – MODEL SUBTOTAL (50 points)</b>				

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.

Indicate the rule violated: \_\_\_\_\_

**PRELIMINARY SUBTOTAL (220 points)**

**SEMIFINAL PRESENTATION/INTERVIEW (50 points)**

CRITERIA	Minimal performance	Adequate performance	Exemplary performance
	1-4 points	5-8 points	9-10 points
<b>Organization of Presentation</b> (X1)	Participant(s) seems unorganized and unprepared for the presentation.	Participant(s) is/are generally prepared/organized in the overall presentation.	The presentation is logical, well organized, and easy to follow.
<b>Knowledge</b> (X2)	Participant(s) seems to have little understanding of the concepts of the design challenge; vague answers to interview questions are provided.	An understanding of the concepts of the design challenge, and answers to questions, are adequate.	There is clear evidence of a thorough understanding of the design challenge; questions are answered well.
<b>Articulation</b> (X1)	Communication of the design process is unclear, unorganized, and or illogical; leadership and/or 21 <sup>st</sup> century skills are not evident.	Communication of the design process is somewhat logical and clear; leadership and/or 21 <sup>st</sup> century skills are somewhat evident.	Communication of the design process is clear, concise, and logical; leadership and/or 21 <sup>st</sup> century skills are clearly evident.
<b>Delivery</b> (X1)	The team/individual is verbose and/or uncertain in the presentation/interview; participant posture, gestures, and lack of eye contact diminish the delivery.	The team/individual is somewhat well-spoken and clear in the presentation/interview; participant posture, gestures, and eye contact result in an acceptable delivery.	The team/individual is well-spoken and distinct in the presentation/interview; participant posture, gestures, and eye contact result in a polished, natural, and effective delivery.
<b>SEMIFINAL PRESENTATION/INTERVIEW SUBTOTAL (50 points)</b>			

Record scores  
in the column  
spaces below.

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.

Indicate the rule violated: \_\_\_\_\_

**SEMIFINAL SUBTOTAL (50 points)**

To arrive at the TOTAL score, add any subtotals and subtract rules violation points, as necessary.

**TOTAL (270 points)**

Comments:

I certify these results to be true and accurate to the best of my knowledge.

**JUDGE**

Printed name: \_\_\_\_\_ Signature: \_\_\_\_\_





# ARCHITECTURAL DESIGN

## EVENT COORDINATOR INSTRUCTIONS

### PERSONNEL

- A. Event coordinator
- B. Assistants for check-in, two (2)
- C. Judges:
  - 1. Two (2) or more (documentation)
  - 2. Two (2) or more (models; preferably the same judges who reviewed the documentation)
  - 3. Two (2) or more (semifinal presentation/interview; preferably the same judges who reviewed the documentation)

### MATERIALS

- A. Coordinator's packet, containing
  - 1. Event guidelines, one (1) copy for the coordinator and for each judge
  - 2. TSA Event Coordinator Report
  - 3. List of judges/assistants
  - 4. Stick-on labels for entries, as needed
  - 5. Results envelope
- B. Tables for entries
- C. Tables and chairs for judges

### RESPONSIBILITIES

#### PRE-CONFERENCE

- A. National TSA will collect entries until 11:59 p.m. ET on a designated date in mid-May. The results will be shared with the CRC manager, event coordinator, and assigned judges.
- B. Review entries as they are submitted to the designated online storage utility.
- C. Manage communication and Pre-conference evaluation (at least two [2] or more judges should be recruited earlier in the year). Coordinate with National TSA and/or the Judge Manager.

#### AT THE CONFERENCE

- A. Attend the mandatory coordinator's meeting at the designate time and location.
- B. Report to the CRC room and check the contents of the coordinator's packet.
- C. Review the event guidelines and check to see that enough personnel have been scheduled.
- D. Inspect the area or room in which the event is being held for appropriate set-up, including room size, chairs, tables, outlets, etc. Notify the event manager of any potential problems.
- E. At least one (1) hour before the event is to begin, meet with judges and assistants to review time limits, procedures, regulations, evaluation, and all other details related to the event. If questions arise that cannot be answered, speak to the event manager before the event begins.

#### EVENT CHECK-IN

- A. Check in the model entries at the time and place stated in the conference program.
- B. Late entries are considered on a case-by-case basis and only when the lateness is caused by events beyond the participant's control.
- C. In order to compete, participants must be on the entry list or must have CRC approval.
- D. Requirements for attire do NOT apply during check-in, only on the first day of the conference.
- E. Each entry must include the team's identification number in the upper right-hand corner of the entry.
- F. Instruct participants to position displays for viewing.
- G. Secure the entries in the designated area.

### PRELIMINARY ROUND

- A. Judges independently evaluate the entries (top 24 models) to determine the twelve (12) semifinalists.
- B. Decisions about rules violations must be discussed and verified with the judges, event coordinator, and CRC manager to determine either:
  - 1. To deduct twenty percent (20%) of the total possible points in this round or
  - 2. To disqualify the entryThe event coordinator, judges, and CRC manager must initial either of these actions on the rating form.
- C. Submit the semifinalist results and all related forms in the results envelope to the CRC room.
- D. Create and post a sign-up sheet for semifinalist interviews.

### SEMIFINAL ROUND

- A. Semifinalists report at the time and place stated in the conference program to sign up for a presentation/interview time.
- B. Semifinalists report at the assigned time and place for the presentation/interview.
- C. Manage completion of the on-site presentation/interviews.
- D. Discuss rule violations (e.g. 20% deduction, disqualification) and have all relevant parties initial the rating form.
- E. Judges determine the ten (10) finalists and discuss and break any ties.
- F. Submit the finalist results and all related forms in the results envelope to the CRC room.